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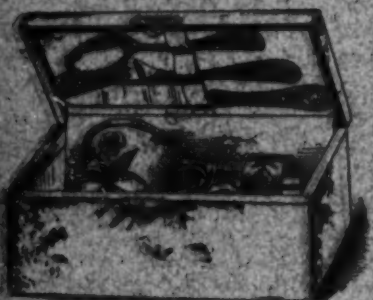
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from THE AMERICAN FARMER. Below we enumerate
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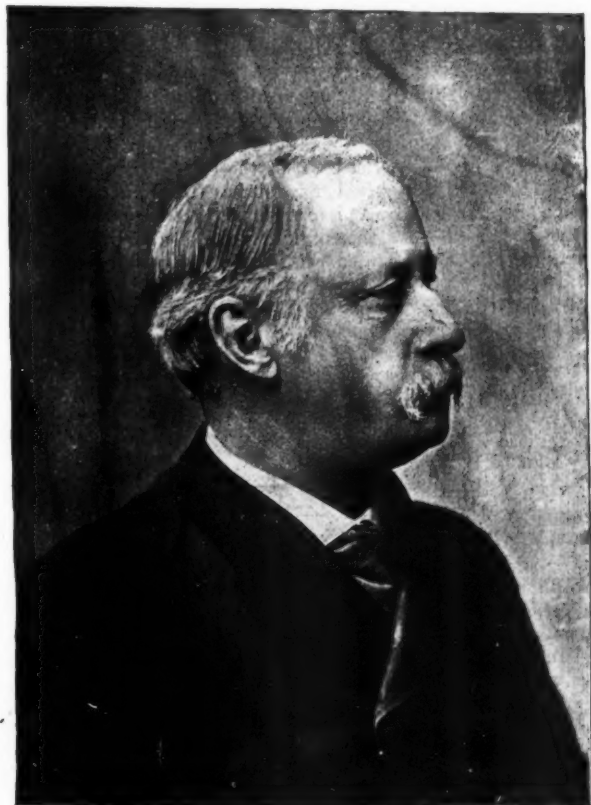
WASHINGTON, D. C., MAY 1, 1892.

Vol. LXXIII. New Series.—No. 9.

HON. A. S. PADDOCK,

Chairman of the Senate Committee on Agriculture and Forestry.

HON. ALGERNON S. PADDOCK, of Nebraska, was born at Glens Falls, N. Y., Nov. 9, 1830, and consequently is in his 62d year. Few men have a more active career, or seen greater results spring from their labors, since he can point to the grand State of Nebraska as in a large degree the result of his handiwork, for he was one of the founders of the State, and at every stage of her history he has been prominent and efficient in all that contributed to her upbuilding. He was educated at the academy of his native town, and took



HON. A. S. PADDOCK.

there the regular college course. He prepared himself for the law, and, like tens of thousands of other ambitious, enterprising, young men at that time, his attention was strongly directed to the great prairie Territories of Kansas and Nebraska, which were then the bone of fierce contention between the Pro-Slavery and Anti-Slavery men. He chose Nebraska as his future home, emigrated thither in the Spring of 1857, and was shortly after admitted to the bar. He became a leader from the first, and was prominent in all the work of developing the Territory into

a State. He was a delegate to the first Territorial Republican Convention held in 1859, and the next year was a delegate to the Republican Convention at Chicago which nominated Abraham Lincoln for President. It was also his fortune and honor to be a member of the Republican Convention at Baltimore, in 1864, which re-nominated Lincoln.

In April, 1861, President Lincoln appointed him Secretary for the Territory of Nebraska, and he continued in this office, much of the time acting as Governor, until the Territory was admitted as a State, in 1867. He removed from his first home in Omaha to Beatrice, and engaged in farming and the manufacture of hydraulic cement. In 1868 he was appointed Governor of Wyoming, but declined the office. In 1875 he was elected United States Senator to succeed Hon. Thos. W. Tipton, receiving the unusual honor of nearly all the votes of both Republican and Democratic members of the Legislature. He served his time out, when President Arthur appointed him a member of the Utah Commission, on which he rendered excellent service until 1886, when he resigned, and in January, 1887, he was re-elected to the Senate, after a vigorous contest, to succeed Hon. Chas. H. Van Wyck. In the present Congress he is Chairman of the Committee on Agriculture and Forestry, and a member of the Committees to Audit and Control Contingent Expenses of the Senate; on Pensions, Public Lands, Indian Depredations, and Additional Accommodations for the Library of Congress. He does good work on all of these, for he is faithful and diligent in attending to business, a careful student of public affairs, a firm friend of the farmers, among whom he is proud to be classed, and a resolute champion of all that looks to the promotion of their interests. No man works harder or more effectively in this field than he. He was untiring in his efforts to get France, Germany, and other European countries to remove their prohibitions, against our pork products, and to him belongs much of the credit of the success of the effort to get the restrictions repealed. He is now prominently before the country as the author of the Paddock Pure Food Bill, which has been passed by the Senate, after a prolonged discussion, and is on the calendar of the House. This bill, which is directly in the interest of the farmers, is now being attacked most malignantly by selfish interests, which mistakenly fear injury from it, and its provisions are being grossly misrepresented. It reads as follows:

AN ACT for preventing the adulteration and misbranding of food and drugs, and for other purposes.

That for the purpose of protecting the commerce in food products and drugs between the several States, the District of Columbia, and the Territories of the United States and foreign countries, the Secretary of Agriculture shall organize in the Department of Agriculture a section to be known as the food section of the chemical division, and make necessary rules governing the same, to carry out the provisions of this act under direction of the chief chemist, whose duty it shall be to procure from time to time, under rules and regulations to be prescribed by the Secretary of Agriculture, and analyze or cause to be analyzed or examined samples of food and drugs offered for sale in any State or Territory other than where manufactured or in a foreign country: *Provided*, That the same be in original or unbroken packages. The Secretary of Agriculture is hereby authorized to employ such chemists, inspectors, clerks, laborers, and other employees as may be necessary to carry out the provisions of this act.

SEC. 2. That the introduction into any State or Territory or the District of Columbia from any other State or Territory or the District of Columbia or foreign country of any article of food or drugs which is adulterated or misbranded within the meaning of this act is hereby prohibited, and any person who shall knowingly ship or deliver for shipment from any State or Territory or the District of Columbia or to a foreign country, or who shall knowingly receive in any State or Territory or the District of Columbia from any other State or Territory or the District of Columbia or foreign country, or who, having so received, shall knowingly deliver, for pay or otherwise, or offer to deliver to any other person, in original unbroken packages, any such article so adulterated or misbranded within the

meaning of this act, shall be guilty of a misdemeanor, and for such offense be fined not exceeding \$200 for the first offense, and for each subsequent offense not exceeding \$300, or be imprisoned not exceeding one year, or both, in the discretion of the court.

SEC. 3. That the chief chemist shall make, or cause to be made, under rules and regulations to be prescribed by the Secretary of Agriculture examinations of specimens of food and drugs offered for sale in original or unbroken packages in any State or Territory other than where manufactured, or in a foreign country, which may be collected from time to time, under rules and regulations to be prescribed by the Secretary of Agriculture, and under his direction in various parts of the country, and publish in bulletins the results of such analyses. But the names of manufacturers of vendors of such foods or drugs analyzed shall in no case be published in such bulletins until after conviction in the courts of violation of this act. If it shall appear from such examination that any of the provisions of this act have been violated, the Secretary of Agriculture shall at once cause a report of the fact to be made to the proper United States District Attorney, with a copy of the results of the analysis duly authenticated by the analyst under oath.

SEC. 4. That it shall be the duty of every District Attorney to whom the food section shall report any violation of this act to cause proceedings to be commenced and prosecuted without delay for the fines and penalties in such case provided, unless, upon inquiry and examination, he shall decide that such proceedings cannot probably be sustained, in which case he shall report the facts to the food section.

SEC. 5. That the term "drug," as used in this act, shall include all medicines for internal or external use. The term "food," as used herein, shall include all articles used for food or drink by man, whether simple, mixed, or compound. The term "misbranded," as used herein, shall include all drugs, or articles of food, or which enter into the composition of food, the package or label of which shall bear any statement purporting to name any ingredients or substances as not being contained in such article, which statement shall be false in any particular; or any statement purporting to name the substances of which such article is made, which statement shall not fully give the names of all the substances contained in such article in any measurable quantities.

SEC. 6. That for the purposes of this act an article shall be deemed to be adulterated—

In case of drugs:

First. If when sold under or by a name recognized in the United States Pharmacopoeia it differs from the standard of strength, quality, or purity according to the tests laid down therein.

Second. If when sold under or by a name not recognized in the United States Pharmacopoeia, but which is found in some other pharmacopoeia or other standard work on materia medica, it differs materially from the standard of strength, quality, or purity according to the tests laid down in said work.

Third. If its strength or purity fall below the professed standard under which it is sold.

Fourth. If it be an imitation of and sold under the specific name of another article.

In the case of food or drink:

First. If any substance or substances has or have been mixed and packed with it so as to reduce or lower or injuriously affect its quality or strength, so that such product, when offered for sale, shall be calculated and shall tend to deceive the purchaser.

Second. If any inferior substance or substances has or have been substituted wholly or in part for the article, so that the product, when sold, shall tend to deceive the purchaser.

Third. If any valuable constituent of the article has been wholly or in part abstracted, so that the product, when sold, shall tend to deceive the purchaser.

Fourth. If it be an imitation of and sold under the specific name of another article.

Fifth. If it be mixed, colored, powdered, or stained in a manner whereby damage is concealed, so that such product, when sold, shall tend to deceive the purchaser.

Sixth. If it contain any added poisonous ingredient or any ingredient which may render such article injurious to the health of the person consuming it.

Seventh. If it consists of the whole or any part of a diseased, filthy, decomposed, or putrid animal or vegetable substance, or any portion of an animal unfit for food, whether manufactured or not, or if it is the product of a diseased animal, or of an animal that has died otherwise than by slaughter: *Provided*, That an article of food or drug which does not contain any added poisonous ingredient shall not be deemed to be adulterated in the following cases:

First, in the case of mixtures or compounds which may be now or from time to time hereafter known as articles of food under their own distinctive names, and not included in definition fourth of this section;

Second, in the case of articles labeled, branded, or tagged so as to plainly indicate that they are mixtures, compounds, combinations, or blends;

Third, when any matter or ingredient has been added to the food or drug because the same is required for the production or preparation thereof as an article of commerce in a state fit for carriage or consumption, and not fraudulently to increase the bulk, weight, or measure of the food or drug, or conceal the inferior quality thereof: *Provided*, That the same shall be labeled, branded, or tagged, as prescribed by the Secretary of Agriculture, so as to show them to be compounds and the exact character thereof: *And provided further*, That nothing in this act

shall be construed as requiring or compelling proprietors or manufacturers of proprietary medicines to disclose their trade formulas;

Fourth, where the food or drug is unavoidably mixed with some extraneous matter in the process of collection or preparation.

SEC. 7. That every person who manufactures for shipment and delivers for transportation from any State or Territory to any other State or Territory any drug or article of food, and every person who exposes for sale or delivers to a purchaser any drug or article of food received from a State or Territory other than the State or Territory in which he exposes for sale or delivers such drug or article of food, and which article is in the original unbroken package in which the same was received, shall furnish, within business hours and upon tender and full payment of the selling price, a sample of such drugs or articles of food to any person duly authorized by the Secretary of Agriculture to receive the same, and who shall apply to such manufacturer or vendor or person delivering to a purchaser such drug or article of food for such sample for such use, in sufficient quantity for the analysis of any such article or articles in his possession. And in the presence of such dealer and an agent of the food section, if so desired by either party, said sample shall be divided into three parts and each part shall be sealed by the seal of the food section. One part shall be left with the dealer, one delivered to the food section, and one deposited with the United States District Attorney for the District in which the sample is taken. Said manufacturer or dealer may have the sample left with him analyzed at his own expense, and if the results of said analysis differ from those of the food section, the sample in the hands of the District Attorney shall be analyzed by the third chemist, who shall be appointed by the President of the Association of Official Agricultural Chemists of the United States, in the presence of the chemist of the food section and the chemist representing the dealer, and the whole evidence shall be laid before the court.

SEC. 8. That whoever refuses to comply, upon demand, with the requirements of section seven of this act shall be guilty of a misdemeanor, and upon conviction, shall be fined not exceeding one hundred nor less than ten dollars, or imprisoned not exceeding one hundred nor less than thirty days, or both. And any person found guilty of manufacturing, or knowingly offering for sale, or selling an adulterated, impure, or misbranded article of food or drug in violation of the provisions of this act, which is a subject of interstate commerce, shall be adjudged to pay, in addition to the penalties heretofore provided for, all the necessary costs and expenses incurred in inspecting and analyzing such adulterated articles which said person may have been found guilty of manufacturing, selling, or offering for sale.

SEC. 9. That this act shall not be construed to interfere with commerce wholly internal in any State, nor with the exercise of their police powers by the several States.

SEC. 10. That any article of food or drug that is adulterated within the meaning of this act and is transported, or is being transported, from one State to another for sale, and is still in the original or unbroken packages, shall be liable to be proceeded against in any district court of the United States within the district where the same is found and seized for confiscation by a process of libel for condemnation; and if such article is condemned as being adulterated the same shall be sold, and the proceeds thereof, less the legal costs and charges, shall be paid into the Treasury of the United States. The proceedings in such libel cases shall conform as near as may be to proceedings in admiralty, except that either party may demand trial by jury of any issue of fact joined in such case, and all such proceedings shall be at the suit of and in the name of the United States.

Senator Paddock is a fine appearing man, with a pleasant, courteous address, and a genial manner. He looks the genuine, able man that he really is. With him and Senator Manderson, the growing State of Nebraska is admirably represented in the Upper House of Congress.

Cleaning Lace Curtains.

Lace curtains will not bear rubbing, writes Maria Parloa in the *Ladies' Home Journal*. All the work must be done carefully and gently. For two pairs of curtains half fill a large tub with warm water, and add to it half a pound of soap, which has been shaved fine and dissolved in two quarts of boiling water; add also about a gill of household ammonia. Let the curtains soak in this over night. In the morning sop them well in the water, and squeeze it all out; but do not wring the curtains. Put them into another tub of water, prepared with soap and ammonia, as on the night before; sop them gently in this water, and then, after squeezing out the water, put them in a tub of clean, warm water. Continue to rinse them in fresh tubs of water until there is no trace of soap; next, rinse them in water containing blueing. After pressing out all the water possible, spread the curtains over sheets on the grass; or, if you have no grass, put them on the clothes-line. When they are dry dip them in hot, thick starch, and fasten them in the frame that comes for this purpose. If you have no frame, fasten a sheet on a mattress and spread the curtains on this, pinning them in such a manner that they shall be perfectly smooth and have all the pattern of the border brought out. Place in the sun to dry. If it be desired to have the curtains a light ecru shade, rinse them in weak coffee; and if you want a dark shade, use strong coffee.

Very Thin.

Customer—You say dis roll is buttered?

Proprietor—Yes, sir; with finest creamery.

Customer—Then it must be photographed on, fer I can't taste it.—Judge.

ALTA BOY.

A Promising Stallion, Closely
Related to Maud S., St. Julien,
and Jay-Eye-See.

We present on this page a reproduction of the photograph of Alta Boy, one of the most promising trotting stallions in the United States. He is the property of Dr. A. Owen, of Chicago, Ill. He promises to be one of the best examples of excellence so far obtained by a cross of the thoroughbred upon trotting stock, resulting in the highest speed, spirit, and bottom—the great virtues to be obtained from both the native and thoroughbred

and requires neither weights or boots. Being a growthy colt, he has never been regularly trained; but, with moderate handling for six weeks trotted a full mile in 2:40; and can at any time show much faster brushes of speed.

He has a handsome head, which he carries well up, a good length of neck, which is well shaped and much finer than most of the Wilkes horses, exceptionally good, sloping shoulders, the best back and loins that can be imagined, long hips, with an extra length to the hock, a perfect set of legs and feet, and is muscled all over to suit the most critical observer.

Alta Boy's speed and blood lines are of the very best and most fashionable. His sire has a record of 2:29½, which is far from his speed limit; his grandsire

Alta Boy's dam is Flocee, by Louis Napoleon, 207; sire of Jerome Eddy, 2:16½; Charles Hilton, 2:17½, etc.

Louis Napoleon is by Volunteer, sire of St. Julien, 2:11½; Gloster, 2:17, etc., and his dam is a great producing daughter of Harry Clay, sire of the dams of St. Julien, 2:11½; Bodine, 2:19½, Electioneer, etc.

Alta Boy's second dam is Mambrino Babe, by Mambrino Gift, the first stallion that ever trotted a mile in 2:20.

Mambrino Gift is by Mambrino Pilot, sire or Hannis, 2:17½, and out of Waterwitch, that great daughter of Pilot, jr., sire of the dams of Maud S., 2:08½; Jay-Eye-See, 2:10, etc.

Study Alta Boy's speed and blood lines carefully; they are the very best. He traces to Hambletonian twice through



ALTA BOY, 7073.

racehorse. He is a bright, bay horse, black points, 16 hands high, foaled 1887; bred by Warren Buckley, Peoria, Ill. Sire, Billy Wilkes, 2:29½. Sire of Mary Marshall, 2:12½; Bloomfield, 2:19½; Judge Ryder, 2:26.

First dam Flocee, by Louis Napoleon, 207. Sire of Jerome Eddy, 2:16½; Chas. Hilton, 2:17½; 16 others in 2:30; dam of Chimes, E., (p), 2:15½; also grandsire of Harry Noble, 2:17½, etc.

Second dam Mambrino Babe, by Mambrino Gift, 584. Record, 2:20. Sire of Mambrinette, 2:21; Faro, 2:25; Alfretta, 2:26½; Mambrino Sotham, 2:26½, and three other in 2:30.

Third dam Pacing Mare, by a Copper-bottom Horse.

He is in all respects a superior individual, absolutely sound, a horse of fine finish, and has the best of dispositions. He is perfectly gaited, having the best of knee and stifle action, a bold open stride,

has a record of 2:13½, and was the greatest campaigner of his day, and his great grandsire has a record of 2:22, and was decidedly the best campaigner and fastest stallion of his day.

Billy Wilkes, the sire of Alta Boy, is now but 11 years of age, and already has three with records from 2:12½ to 2:26, and is by the records the best grandson of the mighty George Wilkes.

Billy Wilkes is by Harry Wilkes, the fastest of the entire get of George Wilkes, and his dam is by Clark Chief, sire of Croxie, 2:19½; grandsire of Guy, 2:10½, etc. Clark Chief, considering the age at which he died, is the greatest son of Mambrino Chief, 11.

Billy Wilkes' second dam is by Kavanaugh's Grey Eagle, son of thoroughbred Grey Eagle, whose blood is in many respects more desirable in a trotting pedigree than that of any other thoroughbred.

George Wilkes and Volunteer. Twice to Mambrino Chief, through Clark Chief and Mambrino Pilot. Twice to Pilot, jr., through Waterwitch and Juliet, and to Harry Clay through Hattie Wood. Therefore he inherits his great breeding through the very best channels. He also has plenty of thoroughbred back of these great trotting crosses.

Another valuable feature of his breeding is that there is not a sire in his entire pedigree that was ever accused of siring a quitter. It is a racehorse blood of the highest quality. A combination of Wilkes, Volunteer, Pilot, jr., Clay, and thoroughbred. Can he fail to be a great sire, or can he ever sire one that will be faint-hearted enough to stop before the wire is reached?

Avoid the shoals, but do not get into too deep water.

Record of Transfers of Pure-bred American Southdown Stock.

Bertha, 1856; Marion, 1858, and Mary, 2678—Geo. W. Groesbeck, Elkhorn, Wis., to E. R. Balsley, Fayetteville, Wis.

Felda, 1859; Martha, 2677; Emma, 2566, and Lena, 2564—Geo. W. Groesbeck to Wm. Henthorn, Sylvan, Wis.

Graddy ewe, "73," 2135—G. J. Hagerty & Son, Hanover, O., to M. I. Montgomery, Grove City, Pa.

Nannie, 2600—T. M. Hutchinson, New Wilmington, Pa., to W. T. Livingston, Indian Run, Pa.

Cameo, 1060; Biddy, 2657; Melia Ann, 1761, and Lustre, 1016—N. R. Routelle, Waterville, Me., to A. D. Libby, Oakland, Me.

Alexander ewe, "1059," 3546; Alexander ewe, "1175," 3435; Alexander ewe, "1170," 3430—A. J. Alexander, Spring Station, Ky., to H. A. Freese, Stoutsville, O.

Olive, 4075; Holly, 4074; Maud C II, 3751, and Minnie C II, 3740—W. U. Noble, Brecks-ville, O., to Peter B. Boyer, Library, Pa.

Shaw ewe, "2," 3797, and Shaw ewe, "3," 3798—Robert Shaw & Sons, Glanford Station, Ontario, Canada, to L. C. Bishop, Adamsville, Mich.

Clay ewe, "224," 2727; Clay ewe, "357," 2742, and Clay ewe, "364," 2747—G. J. Hagerty & Sons to D. M. Smith, Smathers, Pa.

Diana, 3940; Delia, 3929; Dido, 3941, and Dora, 3942—Levi P. Morton, Rhinecliff, N. Y., to A. Rogers, Hyde Park, N. Y.

Lady Newburgh, of Vaalunstein, 4144, and Lady Orange, of Vaalunstein, 4145—Levi P. Morton to S. R. Van Duzen, Thomasville, Ga.

Jonas ewe, "9," 2992—Peter Metler, North Pelham, Ontario, Canada, to John Jackson & Sons, Abington, Ontario, Canada.

Jonas ewe, "28," 1411—John Jackson to James Armer, Custards, Pa.

Dora, 2565—Geo. W. Groesbeck to Thos. Moffatt, Hanover, Ill.

The following special premiums will be offered by the American Southdown Association at the World's Columbian Exposition:

	1st.	2d.	3d.	4th.
Ram, 3 years old or over.....	\$40	\$20	\$30	\$10
Ram, 2 years old and under 3..	40	30	20	10
Ram, 1 year old and under 2..	40	30	20	10
Ewe, 3 years old or over.....	40	30	20	10
Ewe, 2 years old and under 3..	40	30	20	10
Ewe, 1 year old and under 2..	40	30	20	10
Pen of 5 ewes, 2 years old or over, bred by exhibitor....	100	60	40	..
Pen of 2 rams and 3 ewes, under 2 years old, bred by exhibitor.....	100	60	40	..

These special premiums are offered only on compliance with the following conditions:

1. That the animals competing for said premiums shall be recorded in the American Southdown Record at the time of entry for the exhibition, and that the party making the entry furnish the Secretary of the American Southdown Association, at the time of entry, a copy of same so far as concerns competition for these premiums.

2. That the premiums will be paid on the presentation of certificate from the proper officer of the World's Columbian Exposition, giving names and record numbers of the winning animals.

For further particulars, address—S. E. PRATHER, Secretary American Southdown Association, Springfield, Ill.

How to Make a Neat Bedspread.

EDITOR AMERICAN FARMER: A pretty and serviceable bedspread can be crocheted out of white carpet warp. Make in strips alternately wide and narrow. Have the wide stripe about a quarter of a yard wide. For a pattern use a cross-stitch design of leaves and flowers; for the narrow stripe a pretty open insertion. Finish with lace or fringe on the sides.—LOUISA FUNSTON, Goodwater, Kan.

It Couldn't Be.

Winks—I hear that De Chappie fell in a fit on Broadway to-day.

Minks—Impossible. He had on a suit of English-made clothes.—*New York Weekly.*



Stable Talk.

Frou Frou is the fastest yearling trotter in the world, her record being 2.25½.

Mr. George Cox, of Portland, Conn., drives a pair of team horses that are 29 and 30 years old, respectively.

Jay-Eye-See is credited with 58 heats from 2.10 to 2.30, more heats below 2.30 than any other horse that has entered the 2.10 list. Palo Alto is second to Jay-Eye-See, having placed 54 heats below 2.30.—*American Horse Breeder*

Philadelphia horsemen have opened two purses, each of \$10,000, to be contested for at their Spring meeting in July. This will increase the interest throughout the East, and Eastern drivers will probably lend their generous support toward the success of the meeting.

Oats come nearest being a perfect food for horses. The addition of good hay completes the perfect ration. Corn is nearly perfect, but usually costlier than oats. Barley is next to oats. Wheat is liable to perch in the stomach and cause indigestion and accompanying troubles.

American Saddle-Horses.

The American saddler is the creature of his environment; he is the product of the Southern bridle path. He was not bred to follow the hounds, and yet the strain of thoroughbred at his foundation has brought many a gallant rider in at the death. The exigencies of every-day life fashioned his form and diversified his graces. He was made for use, but to serve the needs of the Southerner he must have beauty, ease of motion, and endurance, and from long years of judicious breeding upon a basis of mingled thoroughbred and "side-wheeler" blood the typical American saddler was evolved beyond question the most serviceable saddle-horse in the world. At least, such is Kentucky's estimate of its product, and in that estimate we most heartily concur. Now that the gathering of the blood lines of this breed within the covers of a stud book is systematically under way, its future is bright with promise. What was tradition will become history; breeders will be able to prosecute their work intelligently, selecting their materials as judgment dictates, and the improvement and extension of the type will inevitably follow. The *Gazette* knows of no field in horse breeding which to-day so invites the genius of American breeders, and none, outside that which concerns itself with speculation contingent upon speed, offers so sure remuneration. The market cannot for years be oversupplied with well-

gaited saddle-horses. Is the encroachment of the bicycle in this field feared? Its use has natural limitations. The writer loves his wheel, but that dead thing would rust in idleness could he enjoy the greater luxury of a saddle-horse.

And it will be a sad day if the English bang-tail, with his jackknife motion, supplants, even in a slight degree, the long-tailed, graceful American saddler, whether for professional use or purposes of enjoyment. We have a place for the bang-tail here. None can jingle the pole-chains more merrily than he. We have silver-mounted harness and gay carriage trappings for him, but the pig-skin—never; not so long, at least, as the American saddler meets every want in far more satisfactory manner.—*Breeder's Gazette*.

An Expensive Pig Pen.

What would the farmer of olden times have said to a pig pen costing \$3,000? And yet this amount has been spent on a pen recently completed at the "Harmonist" Community at Economy, Pa. It is constructed on sanitary principles, is heated by two large stoves, and covered with a glass roof with proper ventilators. Everything is kept scrupulously clean by two attendants, who make this their sole duty. The 300 fine porkers who share this palatial home are fed in the eating-room, which is separated from the rest of the pen. It is not stated whether they have a parlor opening into a conservatory or not; but they eye each newcomer with a superiority which plainly means "you do not belong to our set." We wonder if they are any happier than a well-fed pig under a straw stack.

The Franco-American Merino Sheep-Breeders' Association.

Michigan and New York Merino Sheep-Breeders have organized the above association, with Maj. A. F. Kelsey, of Ionia, Mich., President, and Hon. John P. Ray, of Henlock Lake, N. Y., Secretary and Treasurer. Its object is to record the produce of the Rambouillet-French and the American Merino united. As both races are pure merino, proceeding from the same origin, and again united. The produce are still pure merino, and many breeders prefer the plain sheep produced by the union of the large, long-wooled Rambouillet-French merino with the small, short-wooled American merino to either of the latter named sheep. The demand is so great upon the Rambouillet breeders that large importations of the Rambouillet are now being made to supply the demand.

THE FARM.

Rakings.

Two-year-old grass seed is not worth sowing.

In light soils level culture is far the best for corn.

Sowing clover and timothy together increases the yield.

Corn should be cultivated once a week until too high for it.

Drill-planting of corn increases the yield 33½ to 50 per cent.

Fertilizers are better for corn than manure, unless the latter is plowed in the Fall.

The deeper the plowing for corn, so long as the soil is manured or fertilized to the full depth, the better.

Most grass seed is bad. Not more than 50 per cent. of that sold will germinate, and in some cases not more than five per cent.

A week may be gained in time by steeping seed corn in a solution of four ounces of saltpeter in a gallon of water and having it all soaked up by a peck of seed.

Pastures infested by the distressing and fatal wire or thread worm can be completely disinfected by a top dressing in the Spring of 40 bushels to the acre of air-slacked lime.

All seed should be tested before planting. This will not only demonstrate whether it is worth planting, but will prevent sowing weeds and developing swarms of hurtful insects. Many instances are on record of introducing weevil and other pests by carelessness about seeds.

The average yield of corn in the United States is 40 bushels to the acre. The best way to increase the National wealth is to teach farmers how to increase this average to 80 bushels. It can and will be done. The first farmers to do it will make money; those who do not will have to struggle with the Sheriff.

SMALL FARMS.

The Way Some Men Make Them Pay.

"A gentleman living 18 miles from Columbus, O., is now cultivating a farm of 25 acres. I visited him last Summer and found that his sales were averaging \$100 per acre for his entire farm. His principal crops were strawberries, raspberries, sweet corn for roasting, nutmeg melons, and cucumbers; but he grew a few acres of wheat, which furnished straw for bedding for his cows and horses, and some other miscellaneous crops.

"A warm personal friend of mine in my own County lived on a farm of 11 acres of land very similar to that described by your correspondent—a sandy loam of fair fertility. He devoted his entire farm to sweet potatoes, and made a success of it. I had access to a record of his crops for seven years, and found that the first year he grew them his average was 125 bushels per acre, his best crop 262 bushels, and the average for seven years was 198 bushels per acre. He was able to increase his yield largely without increasing expense by a study of the habits of the plant and intelligence in management.

"A gentleman who lectured with me at several institutions the past Winter is living on a farm of nine acres, and is considerably more than making a good living from it, his special crops being strawberries and nutmeg muskmelons, and he told me that by having so small an area to cultivate he was able to grow maximum crops. Last year he succeeded in growing 200 barrels of nutmegs to the acre, sold the early ones at \$4 per barrel, and averaged not far from \$2 per barrel. A young German who came to this country in 1875 without a dollar worked for me by the month for one year at \$18 per month and saved about \$175 of his wages. The next year he leased four acres of land with a small house on it. He kept bachelor's hall for one year, and then married and bought the land for \$1,800. He has now a family of six children, has paid for his land, has put up a neat stable, built an addition to the house, is out of debt; all has been made from the four acres, and his children are well clothed and schooled. Such cases can be found by the thousand, and there is as good a chance now for a man of industry, economy, and intelligence to succeed on a small farm as at any time in the past.

"I know a family, all of whom—two of them young women—make a comfortable living by growing roses and other flowers. There can be no more delightful occupation than this of the florist, who lives in an atmosphere of fragrance every day of the year, and who is surrounded by the most beautiful products of nature—a veritable Garden of Eden. The father was a working gardener and rented a small country place, and began growing vegetables for the market, adding in time, as his savings permitted, a greenhouse for flowers. Now the family all find occupation in this pursuit. How many other persons may do likewise?"—*Country Gentleman*.

Early Melons.

A correspondent of *The Farm and Home* suggests a way to utilize old tin cans in the interest of early melons: "Heat the cans hot enough to melt the solder; remove tops and bottoms, also open joint on sides. Tie string around each can, to hold the edges together, set on a board, and fill with soil, in which plant the seed. Keep warm, give air and sunlight. When frost is over, take to the field, open a hole in the hill and place the can in it. Then cut the string, remove the can by pressing open, and the plant will grow off rapidly. Have rows 10 or 12 feet apart and hills 10 feet apart. Thin plants to two in a hill, and, if attacked by bugs, dust them with ashes."

The American Rambouillet Sheep in the United States.

The demand for these sheep has required large importations. Mr. Wyckoff writes, April 18, from New York that he has just placed in quarantine some of these sheep just imported from Paris. Several hundred will be imported later in the season to supply order, many of which are booked.

All trees do better if transplanted before the buds start.

PROGRESSIVE AGRICULTURE.

The Most Recent Discoveries, Developments, and Ideas in the Science of Farming.

Recent Progress in Soil Investigations.

TO SAY that the farmer should have a knowledge of the soil which he tills is to say that he should be a farmer. But there are two kinds of soil knowledge—the theoretical and the practical. The farmer does know the practical side. He can tell by inspection whether a soil is good or bad; whether well or poorly drained; whether in good or poor tilth. He may not be able to use the scientific terms which belong to these conditions, perhaps does not know them, but he knows the conditions.

This is well brought out by Mr. Milton Whitney in his report of soil investigations carried on under the joint auspices of the Maryland Agricultural College, the Johns Hopkins University, and the United States Department of Agriculture. The work relates chiefly to Maryland soils, but has a wider and more general interest than would be represented by any one locality. The farmers' part of soil knowledge is well set forth. It takes really very little experience for one to judge at a glance whether a soil is suited to grass, or wheat, or tobacco, or watermelons. The practical farmer has but to look at a small handful of earth and he is able to tell whether the soil is in good condition, as regards moisture and other properties, for the growing crops. It is wonderful how accurate a practical farmer's knowledge is of such things. He casts his eye over a field and tells at once whether it has been well cultivated. He looks at the appearance of the soil and will be able to tell whether the farmer who owns it understands his business; in fact, it appears that a soil responds as readily to kind treatment as a horse or an ox. Everyone has been struck by the difference in the appearance of horses kept by two different farmers, one of whom pays proper attention to his animals and the other neglects them.

Just as striking is the difference presented by a field which has been properly kept as contrasted with one which has been improperly kept.

The agricultural chemist approaches this problem from a very different point of view. He looks for differences in chemical composition, differences in constituents of plants, and yet with all his care and skill he is not able to form as good a conclusion in regard to the nature of the soil, the kind of tillage and the kind of fertilizer required as the practical farmer himself.

It appears, therefore, that there is more in the physical condition of the soil than is usually allowed. It is true that chemical analysis has its part to play, but the difficulty is in interpreting the results obtained. It is believed that the true key for the interpretation of the chemical results will be found in a study of the physical structure of the soil and its relations to meteorology and plant growth.

The most important physical characteristic of the soil is its relation to the circulation of moisture. The absolute necessity of moisture to plant growth is well understood. The amount, however, which is necessary to secure a good crop varies widely with the physical conditions of the soil. In other words, the amount of crop produced does not depend upon the amount of rainfall, but upon the method in which the plant utilizes the rainfall which reaches it. It is possible, by proper attention to the physical conditions of a soil, to make a plant largely independent of the actual amount of rainfall. Excellent crops of sugar beets are grown in California with very little rainfall, or none at all, and without irrigation. Equally as good crops can be grown in localities where the rainfall amounts to three or four inches per month. It is thus seen that in any given case the plant may be largely independent of the absolute amount of moisture received, provided it is capable of securing a proper circulation of moisture within itself. A soil properly prepared and in proper cultivation will dispose of a large excess of rainfall before it has time to injure the growing crop; in the same way it will husband its resources of moisture and supply the plant with a sufficient quantity thereof even during periods of drouth. For instance, the character of the soil of the typical lands of Maryland may be cited.

There is a certain part of the State, belonging to a given geological formation, which is grown up with pines and is regarded as pine barrens and too poor to be put under cultivation. There is another type of soil in the State, of a different geological formation, which is well-suited to melons and all kinds of garden products. There are still other types of soil suitable to the growth of tobacco, wheat, and grass. These differences in type are not due alone to differences in the quantity of plant food available. For instance, it would not be possible, with any kind of manuring, to produce at once a good wheat crop on the pine barrens or on the light truck lands. It is, in fact, according to Mr. Whitney, a function of the circulation of the water in the soil rather than the actual amount of plant food therein which enables the different types of soils to produce the different crops mentioned. He also holds that in the deterioration of lands, gradual wearing out, it is not so much due to the exhaustion of the supply of plant food as to a change in the character of the soil which relates to its physical structure and to the circulation of moisture therein as a consequence. The problem, therefore, of the greatest importance in connection with this appears to be first a study of the conditions under which the circulation of the water takes place.

Circulation of Water in the Soil.

Every farmer is familiar with the fact that soils differ vastly among themselves in their power of conveying water.

After a hard rain it is well known that in some fields the moisture is persistent and it takes a long while for them to dry out. During this time any attempt at cultivation must be suspended. In other fields the soil dries rapidly and often, so that in a few hours after a hard rain cultivation can be recommenced.

The opposite of this is also true. In times of drouth there are some soils in which the moisture seems to be continually supplied and the plant does not suffer for rain. In another field the moisture seems to be entirely absent; the plant wilts and its growth is stopped. Yet it is true that in these two types of soils each receives the same amount of rain and has the same amount of moisture at its disposal. The difference, therefore, must depend upon the capabilities of the two types of soils for handling the moisture at their disposal.

In regard to the forces which cause the circulation of water in the soil they may be divided into two. First, the force of gravity or the tendency of water to sink into the soil from its own weight. The second force is what is known as the surface tension. Unlike gravity, which acts only in one direction, surface tension may act in every direction. It is well exhibited in the power of capillary attraction. If a clod of dry soil be brought in contact with water at its lower part, the water will gradually rise and permeate all parts of the lump. The rapidity with which this is accomplished depends upon the physical state of the soil, and is a measure of its power of producing water circulation.

In a general way, surface tension may be defined to be the tendency which any exposed surface has to contract to the smallest possible area consistent with the weight of the substance.

According to Mr. Whitney's idea, if a mass of water is divided or cut in two, leaving two surfaces exposed to the air, the particles which were before in the interior of the mass and attracted from all sides by like particles of water have now water particles on only one side to attract them. All the surface particles of water will, therefore, be pulled from within the mass of water, and the surface will tend to contract as much as possible, leaving exposed the smallest number of surface particles and causing a continual strain or surface tension. On any exposed water surface there is always this strain or tension ready to contract whenever opportunity is afforded.

Although the particles of the soil lie closely together, yet on an average there is always about 50 per cent. of space between the particles filled with air or water. In a cubic foot of soil, therefore, there will be about half a cubic foot of empty space. It is, of course, apparent that the amount of surface tension in any given particle of soil will depend upon the actual amount of water which it contains. If the soil is thoroughly saturated with water, so the whole of the empty space is filled, then the amount of surface of water exposed is reduced to a minimum, and the surface tension of the water would have its least effect. In such a case the circulation of the water through the soil is controlled chiefly by the force of gravity.

On the other hand, if the amount of moisture in the soil is very slight and this moisture is distributed evenly throughout the mass, then the amount of surface exposed by the water is enormously increased. In a case of this kind the movement of water through the soil is controlled chiefly by the surface tension and not by gravity.

It has been computed that in a cubic foot of soil the surface of the particles composing the soil amounts to not less than 50,000 square feet. When water is evaporated from the soil, the surface tension of the remaining portion is increased, and this tends to pull new portions of water from the lower depth toward the surface. In this way surface tension will replace the water which is evaporated from the soil during a period of drouth by fresh portions of water drawn from the lower strata and in opposition to the power of gravity.

On the contrary, when rain falls on a soil already dry and moistens the upper surface, the surface tension of the drier parts of the soil below tends to draw the water downward, so that it will rapidly permeate to a great depth, and in this case surface tension acts in harmony with the power of gravity.

One of the most interesting facts connected with this investigation is found in the variation which is produced in the power of surface tension by different kinds of fertilizers. It is found that salt and kainit, which is a mixture of compounds of potash and magnesia obtained in the Stassfurt mines in Germany, tend to increase the surface tension of water in a marked degree. Thus the application of common salt and kainit to land would have a tendency to counteract the bad effect of a dry season and to keep the soil more moist during a period of drouth.

It is believed that much of the good which comes of the application of salt to lawns, clover-fields, etc., is due to the effect above mentioned.

Ammonia, on the contrary, diminishes the surface tension of water, and this may account for the fact that the application of large quantities of barnyard manure, which is rich in ammonia, always has injurious effects upon crops during a dry season; in fact, it may be inferred from these researches, that much of the good or bad effect produced by any given fertilizer may be found in the way in which it affects the physical condition of the soil by increasing or diminishing its power of attracting and holding moisture.

How Fertilizers Affect the Texture of the Soil.

The tendency of soil particles to remain suspended in water is well shown by examining the water of any stream after a heavy rain. The muddy character of the water of a swollen stream is due solely to the particles of soil which it carries. These particles, even when the water comes to rest, tend to remain in suspension

often for days and even weeks. The turbid waters of the Missouri River maintain their turbidity until they reach the Gulf of Mexico, where the silt which they contain is precipitated by coming in contact with the salt water. This silt settling to the bottom has gradually formed the deltas of the Mississippi, and will doubtless continue to plague the navigators by closing up the channels of the river for all time to come. This phenomenon of the muddy water of the Mississippi River becoming clear when it reaches the salt water of the Gulf may seem to have no relation to agriculture, and yet it is a striking illustration of the way fertilizers may affect soils.

The settling of silt which is suspended in water is caused by a process which is known as flocculation. If two particles of soil are suspended in water and brought close together they may be attracted toward each other or not according to the play of the surface tension of the water particles on their surfaces. Whenever the two particles do attract each other and come together, forming larger particles, they tend to settle out in small flocks, and this phenomenon is called flocculation.

A very instructive experiment can be tried by anyone in this respect. Take a vessel of turbid water, which does not have any tendency to settle, or rather take two such vessels. Into one of them put a little lime or common salt, and stir thoroughly until the materials are well distributed together. It will now be found that the liquid in the vessel to which the lime or salt has been added will rapidly become clear, while the turbidity in the untreated one will remain the same. It is apparent, however, that the addition of the lime or salt has tended to change the action of the surface tension of the soil particles in such a way as to allow them to attract each other and form small flocks.

If, on the other hand, ammonia be added to the liquid, there will be a tendency to prevent flocculation and to keep the liquid turbid.

It has already been stated that about 50 per cent. of the volume of a soil is empty space. This empty space is divided up by a vast number of grains of sand and clay. According to Prof. Whitney's investigations, if these grains are evenly distributed throughout the soil, so that the separate spaces between the grains are of nearly uniform size, water will move more slowly through the soil than if the grains of soil through flocculation adhere closely together, and to the larger grains of sand making some of the spaces larger and others exceedingly small. This observation, therefore, furnishes a principle to work on in the improvement of the physical condition of soils by means of fertilizers.

In a heavy clay soil, through which the water moves with great difficulty, the application of lime may cause a flocculation, a bringing together of the clay particles, and this will leave larger spaces through which the water can move.

On the other hand, if you have a sandy soil, which contains organic matter, the application of lime will cause the organic matter to be precipitated into the sand, and thus will fill up the spaces and retard the circulation of the water, and thus fit the soil better for the vicissitudes of a dry season. This is the explanation of an apparent paradox in which lime is found to benefit soils of the most opposite character. In this way lime may be said to be the best fertilizer both for light, sandy soil and for heavy, clay land.

We have seen already the effect produced by the application of common salt and kainit. It is more than probable that much of the good effect which comes from the application of land plaster may be due also to the influence which this compound has upon the physical state of the soil.

The same remark may be held true in the application of phosphates. It has been a matter of surprise, from a chemical point of view, to find the phosphate in basic slags acting more happily and more readily than the phosphates in the ordinary superphosphates of commerce. There is little doubt of the fact that further investigations will show that much of this superior action is doubtless due to the effect which the basic slag has upon the surface tension of the water in the soil particles.

In the light of these investigations, fertilizing must have a new interest to the farmer. Not only does it look to restoring to the soil those elements of plant food which have been removed therefrom, but also has the function for improving the physical state of the soil, so that in the application of a fertilizer the field may actually secure many of the best effects due to careful cultivation. I have often noticed in soils where wood ashes have been applied that the effect which is produced is out of all proportion to the amount of plant food which this substance contains. It is true that in wood ashes the plant has access to large stores both of phosphoric acid and of potash, but the same amount of potash and phosphoric acid applied in other forms has failed to produce the same good effects. It follows, therefore, that in the application of wood ashes a great part, at least, of the favorable results obtained may be due to the influence which it has upon the physical state of the soil to which it is applied.

Typical Soils in the State of Maryland.

The classification of soils at best is a difficult matter, and there is no fixed rule by which the investigator can be guided. In general, soils are described as clay, sand, loam, prairie, muck, etc., or by a combination of these various names. These classifications are subject to subdivisions, as, for instance, you can have a light, sandy soil or a heavy, sandy soil, a light or a heavy clay, and the same with all the other classifications.

A strictly scientific classification of soils would be according to their origin. Soils are supposed to be formed in place by the decomposition of rocks of the immediate neighborhood, or to be deposited from water, or to be carried by drift in glaciers, etc.; but there is probably no soil which has been formed exclusively

by any of these methods. Every particle of matter which is carried by the wind, or mechanically in any way, or of meteoric matter which may be attracted from space by the earth, may help to make up the aggregation of the soil. It is probable that there is no place where the soil may be said to be strictly formed by the decay of rocks, or where it is wholly formed by the deposits from water or the drift of a moving glacier. Nevertheless, in establishing classifications of soils we should not leave out of account their geological origin. Many samples are necessary to establish a type.

Prof. Whitney has described the typical soils of Maryland both from an agricultural and geological point of view. The soil of the pine barrens of the State is a coarse, yellow sand, very loose and incoherent when worked, but packed exceedingly hard and tight in the subsoil. These lands are very poor, and yet they form an extensive area in the southern part of the State. Nearly all the garden products which are supplied at Baltimore and the large northern markets from the State of Maryland are produced on a rather narrow belt bordering Chesapeake Bay and the rivers from Baltimore southward to West River. Geologically, it belongs to the eocene formation, although far down in the southern part of the State the lands are coarser and belong to a more recent period.

The garden lands proper have a fine texture of a gray or reddish-gray color. They contain, however, the proper amount of clay and organic matter, and are naturally fertile, but their fertility is easily exhausted. On account of the nature of the soil, large quantities of manure of organic origin can be used in forcing the vegetables to rapid growth without fear of unduly clogging the soil. The soils are derived largely from the decomposition of green sand similar in composition to the green sand marls of New Jersey, and for this reason they should be rich in potash and phosphoric acid. The soils are rather too light in texture for wheat, although, under certain conditions, good crops of wheat can be grown on them.

Another type of soils in Maryland are those adapted to the growth of wheat and tobacco. They appear geologically to belong to the eocene period. This formation extends obliquely across the Peninsula in rather a broad belt from South River and Herring Bay to Pope's Creek, on the Potomac River. The subsoil of the wheat land is a strong clay loam of a very marked and characteristic texture and yellow color. It is usually not more than four to six feet deep, resting directly on the white diatomaceous earth, from which it appears to have been directly formed. Wheat and tobacco are commonly grown on the same land in alternate years or in longer rotation, but the strongest and best wheat land is too heavy for tobacco. Such land gives a larger yield of tobacco, but it makes a coarse, thick leaf, which does not cure well or take on a fine color when cured. The best of the tobacco lands are of a light texture, and too light for the best wheat production.

Lime is one of the chief fertilizers of all the wheat and tobacco lands in the State. On the lighter soils lime must be used in connection with organic matter. The wheat lands are kept up by being limed once about every five years, and having a crop of clover turned under meanwhile.

There is another type of soil bordering the rivers of southern Maryland which may be regarded as bottom or second bottom lands. They are very level and uniform in appearance. They extend usually about half a mile inland from the rivers. The soil is a fine loam and the subsoil a yellow clay loam. The fertile soils of the Frederick and Hagerstown Valleys have been formed probably by the disintegration of the Trenton limestone. They are a heavy, red clay, well suited to grass and wheat.

There is another type of soil in the Frederick Valley which has been derived from a Triassic red sandstone, forming a dark-red, heavy clay soil. Both the limestone soil mentioned above and this sandstone soil are much benefited by applications of lime.

The Helderberg limestone forms a small area of fertile hill and valley lands west of Hagerstown. This land is well adapted to grass and wheat.

There are many soils of different origin from those mentioned above, but they exist in small quantities, and those which have been described may be regarded as the chief typical soils of Maryland.

In general, it may be said that the crystalline rocks, such as granite and serpentine, have formed the soils of northern central Maryland. They are made up of different minerals, the most common of which are quartz and feldspar, and they are held together usually with lime or silica. When the rocks decay the cementing material is dissolved and carried off, and many of the minerals themselves are changed.

The soils of western Maryland are mostly made from sedimentary rocks which have been deposited from water. These form the limestone valleys, well adapted to grass and wheat.

The soils of southern Maryland and of the Eastern Shore are of more recent origin, but are also sedimentary.

These different soils are also distinguished by distinct botanical characteristics, and hence names derived from this fact are not uncommon. For instance, it is very common to hear the soils of Maryland described as pine barrens, white-oak lands, black-jack lands, chinquapin lands, grass lands, wheat lands, truck lands, etc. These names are in many respects the best that could be used, since they at once convey a distinct idea of the character of the land, which would not be carried by the use of the geological names or a reference to the geological formation from which the soil is supposed to be derived.

The Number of Particles in a Given Weight of Soil.

The farmer, perhaps, has little idea of the number of separate particles with which he is dealing in tilling his fields. To him the soil is an entity, composed simply of a mass of material which is homogeneous, and which, when tilled to a certain

depth, is capable of furnishing a given crop. He, however, would probably be amazed to know the actual number of separate particles in the smallest fragment of the soil which he cultivates.

Prof. Whitney has made an approximate calculation of the number of particles in a given weight of some of the typical soils found in the State of Maryland. The weight taken in each case is one gram, which is about one five-hundredth part of a pound. The number of separate particles in a gram of each of the following typical soils is estimated as follows:

Pine barrens.....	1,692,000,000
Garden soils.....	6,898,000, 00
Tobacco soil.....	8,258,000,000
Wheat soils.....	10,358,000,000
Rich bottom soils.....	11,684,000,000
Limestone grass lands.....	24,653,000,000

It is impossible to have any adequate conception of numbers so large as these, yet it is interesting to know that in such a small quantity of soil such an almost infinite number of particles can be contained.

The estimation of the approximate number of particles is not without value also for agricultural purposes. It is seen, for instance, that when a soil contains less than about two billion particles per gram it becomes so unfertile as to make it almost impossible to cultivate it with profit, as in the case of the pine barrens. On the other hand, land which contains about seven billion particles of matter in one gram can be made profitable for market gardening. When a soil reaches about ten billion particles per gram it is suitable for wheat culture, and when it reaches from twenty to twenty-five billion particles per gram, then it is suitable for grazing.

In other words, this study shows that the soil particles must have a certain degree of fineness in order to be suitable to any given crop, and, as has been intimated, this is due to the fact that the particles of soil themselves fix in a marked degree the amount of surface tension of the water therein, and thus supply those conditions for water circulation in the soil, without which practical agriculture is impossible.

AUSTRIAN STUD FARMS.

The Work Being Done by the Austro-Hungarian Government in the Interests of its Cavalry and Artillery.

EDITOR AMERICAN FARMER: In traveling from Buda-Pesth to Mezohegyes one cannot fail to notice the almost perfect flatness of the country. Here and there are scattered villages, with houses to which one is attracted by the small white ovens which stand near the different doorways.

Reaching Mezohegyes, it is found to be a plat of rich, Hungarian land, about 60,000 acres in extent, and presenting an animated appearance. A State railway runs through its center, and through the town may be noticed a postoffice, large hotel, hospital, schools, church, etc. Mezohegyes is the chief stud and Government farm in Hungary, and farming is carried on to a large extent, there being 7,000 pigs, 12,000 sheep, 2,700 working bullocks, 28 steam thrashing machines, etc. Occupation is given to about 10,000 men, women, and children, a large portion of that number coming from the north of Hungary.

There are about 2,300 horses, which are under military control. The Commandant, who is responsible to the Hungarian Minister of Agriculture, has under him about 250 subordinates, including rittmeisters, veterinary surgeons, subalterns and soldiers.

The stud, the object of which is to improve the breed of horses, was formed in 1785, and since that time a careful record of the pedigrees has been kept, and families have been established, possessing specially good points and strong characteristics. All of the best animals are kept for stud purposes, and by drafting each year the stud is kept up to the highest state of perfection.

The stallions are divided into four classes: First, those for stud purposes, there are 19 of these, nine being thoroughbred English, and the rest half-bred; second, those that are let out to private proprietors, who pay from 300 to 800 florins (from \$108 to \$288) a season for them; third, those stationed at the military stations scattered all over the country. These are let at fees ranging from two to five florins (from 70 cents to \$1.80); fourth, those that are sold to the communes.

In one stable there were 100 of these stallions standing with nothing but a swinging-pole between each horse. In another stable were standing the stallions for the communes. The price on each of these is fixed by the Minister at a figure very much lower than the horse's real value. Intending purchasers inspect the horses, make their choice and pay down one-quarter of the price, and the balance in three yearly instalments. If the horse from any cause proves a failure he can be changed.

The mares are generally kept in groups of about 100 each, guarded by mounted soldiers (Chicos) when turned out in the plains. They are a particularly good-looking lot of mares, and are said to produce excellent chargers noted for their good temper.

The young horses are most carefully kept in their special class and in lots of from 65 to 100. They are kept in long, loose houses, with big strawyards attached, and one can walk and push his way among them without any danger.

Attached to the houses are stables for the Chicos' horses, and saddle and sleeping-rooms for the men. The animals are carefully groomed every morning and tied while eating their corn. Those that eat quickly or slowly or require extra feeding are separated. The character of each animal is studied and known. A donkey is kept with each lot to accustom the horses to donkeys, a large number of which abound in this section.

The mares are all apparently sound, having clean, hard legs, and good feet. All animals in the stud are branded with two marks and a number, which show which horse it was got by and the dam's breeding. By this system it can easily be told where any animal may have come from.

In October of each year an auction is held, and good harness horses and chargers are sold at from 500 to 800 florins (\$180 to \$288). These auctions are carried on by the Government, and a military auctioneer repeats the bidding in both German and Magyar tongue. The Minister stands in the ring and controls the sale.

Traveling to Radantz, I find that it is a straggling, irregular town, with its principal business street in the hands of the Jews. Here also are found the Government buildings. Everything in connection with horses is well done in a systematic manner, and the herds of horses are turned out in Summer to roam at will in the Carpathian Mountains. The stud at this place consists of about 1,350 horses.

The 22 stud stallions are a good lot, among them being English thoroughbreds, pure-bred Arabs, half-bred Arabs, and two of the Lippitzaner breed. The half-bred Arabs have very good action and shoulders.

Reaching Millichutz, I found the stud buildings on a marshy flat. Here are 62 Arab mares, averaging about 15.3 high, and having beautiful legs, plenty of bone, and being peculiarly docile and intelligent.

One of the chief features of Radantz is its collection of mares and stallions, crossed and recrossed with pure or half-bred Arab blood for the last hundred years. Untiring, sure-footed animals are produced as a result of their ranging in Summer over the plateaux of the Carpathians. The horses travel in herds of about 400 each, and each 100 horses have six Chicos in charge of them. The horses require no driving, and at night when huge fires are lit, they draw near them for the sake of warmth.

It is clearly apparent that the Austrian Government is doing a great deal to improve the quality of horses in their country. It costs upward of £100,000 a year, but this is a profitable expenditure, owing to the many indirect advantages accruing to the State.—J. G. RINGGOLD, Buda-Pesth, Hungary.

A Baboon Switchman.

A baboon is a well-known character in the Cape Colony, but more particularly in the neighborhood of Port Elizabeth. The history attaching to him is a curious and probably unique one.

The signal man, his owner, was, through no fault of his own, run over by a passing train and had to have both legs amputated, which would naturally incapacitate him from work, but the idea struck him to secure a baboon and train him to do his work. This he has successfully accomplished, and for many years the one in question has regularly looked after the levers and done the hand work of his afflicted master. The animal is possessed of extraordinary intelligence, and has never made a mistake.

Of course, the human servant works the telegraphs, and the baboon the levers, according to instruction; and taking into consideration the fact that at the station in question, Uitenhage Junction, and about 20 miles from Port Elizabeth, there is a large volume of traffic, the sagacity of the creature is really wonderful.

At first the passengers raised a strong protest against the employment of the animal on the score of risk or accident, but the baboon has never yet failed during his many years of work, and on more than one occasion has acted in a manner simply astounding to those who never had personal experience of the intelligence of these brutes.

One of his most noteworthy performances was the correct switching of an unannounced special train on its correct line in the absence of the signal man. The latter lives about a mile up the line, and the baboon pushes him out and home, morning and night, and is the sole companion of his legless master.—*Christian Intelligencer*.

The Kudzu Vine.

This is probably the most rapid-growing plant in the world. It belongs to the bean family. The leaves are something like a Lima bean, and was once called *Dolichos japonicus*. It will grow easily 60 feet in three months. It was introduced into America by the Japanese during the Centennial Exhibition. It is said that in its own country it has flowers like bunches of wistaria. For some reason American Summers do not seem long enough for it. It rarely blooms. It is used in Japan as a forage plant. Medicine is made from its roots. Flour also is made from its roots, which is as nutritive as that furnished by the potato; it is obtained by simply grinding in water, and the starch falls to the bottom. The peeled stems are made into cloth. The roots grow to an enormous size. The top dies to the ground sometimes, when it seems like a herbaceous plant. It is extremely valuable for rapidly covering anything in one season, besides being always interesting to the lover of the wonderful on account of its rapid growth.—*Mechan's Monthly*.

A Good Reason.

Little Boy—Can your sister play?

Little Girl—No, she makes awful noises w'en she tries.

Little Boy—Then wot did your papa get her a piano for?

Little Girl—I dunno. I guess it was 'cause he wanted zee box for a coal bin.—*Street & Smith's Good News*.

THE MUCK SOILS OF FLORIDA.

A Country of Great Present Value and Wonderful Possibilities.

BY PROF. H. W. WILEY, OF THE AGRICULTURAL DEPARTMENT.

FROM an agricultural point of view, the soils of Florida may be divided into three great classes. The first of these consist of the pine barrens, in which the soil is almost pure sand, having very little organic matter and clay. These lands are the least valuable for agricultural purposes of any in the State. The second class consists of the lands which are known as hammocks. They differ from the pine barrens in having a certain amount of organic matter and clay, and in being covered in the natural state with a growth of live oak and other hard woods instead of pines. These lands are quite fertile, producing large crops of vegetables, and being especially suitable for orange culture.

The third great class comprises the swamp lands. These lands, when only slightly covered with water, often carry a heavy growth of cypress trees, and are known as cypress swamps. When the water is deeper the cypress gives way to a growth of grass. Various species of water grass are found growing in these swamps, but the most abundant, especially in the southern part of the Peninsula, is the plant known as saw grass, which covers two or three hundred thousand acres of marsh lands bordering the Okeechobee Lake. By the decay of these grasses there has gradually accumulated on these swamps a layer of vegetable mold, which is popularly known in Florida as muck, and which partakes very much of the nature of peat. This vegetable mold varies in depth from several feet to a thin layer where the swamp extends outward and joins the pine lands. The very thin layer of this vegetable mold over the sand forms often a border of varying width between the pine barrens and the swamps themselves, known as prairies; and these prairies, which form a considerable area of the Peninsula of Florida, afford excellent grazing for cattle.

The composition of the true muck soil, that is the pure vegetable mold, is what might be expected from its origin. It is chiefly organic matter, containing a large percentage of nitrogen, and only a very small quantity of lime, phosphoric acid, and potash. There is found also mixed with it more or less sand, and especially the layers near the bottom, which rest on the sand, are pretty thoroughly mixed with this substance.

Beginning at the surface of the muck the vegetable matter is in the least decayed state, while at the depth of one foot or 18 inches it becomes a more homogeneous mass of black or brown organic material. This muck, when dry, will burn with great facility, and in those localities where the water has been removed from it great care has to be exercised in a dry season to prevent extensive fires from raging in the soil. When the water is removed from this soil, it is found to be extremely fertile. Even without the application of mineral fertilizers, large crops of vegetables, rice, and sugar cane can be grown.

Strange as it may seem, this soil has also been found well adapted to the growth of certain kinds of fruit trees. Near the town of Kissimmee, in central Florida, there is an extensive peach orchard, now in full bearing, growing on a typical muck soil of from three to four feet in depth. These trees grow in the greatest luxuriance; the fruit is highly colored and well flavored, and on account of the early date at which it is brought into the market, namely, the latter part of April or the first of May, is found to bring very high prices, and the orchard proves very remunerative.

During the past Winter, for the first time, orange trees planted upon the muck have come into bearing. While no judgment can be formed from the one or two trees which have already come into bearing on the muck, yet it may be said that a totally unexpected result has been attained. It was thought at first useless to attempt to plant orange trees on muck soil, as it was supposed they would not grow; but the young trees which have been planted on the muck look thrifty, and the few oranges which have been produced, while not equal in quality to those grown on the hammock lands, yet show very encouraging results. It is not probable, however, that the reclaimed muck lands will ever prove highly profitable for orange growing in competition with the hammock and sand lands.

The best results which have been obtained upon the reclaimed muck soils have been in the growth of sugar cane. This crop is found to grow in great luxuriance upon these soils, but it does not have the hardness which characterizes the sugar cane grown upon the uplands in the same vicinity. The cane grows very rank, very large, but also very tender. This is doubtless due to an insufficient supply of mineral food. If the proper quantity of lime, potash, phosphoric acid, and sand should be added to the soil, it would doubtless be found that the cane produced would be more hardy.

Experiments in the growth of cane have now continued some six or seven years, and with most encouraging results. During this time it has not been found necessary to replant the cane, as the stubble gives a crop each year without any apparent diminution in its value. This is a great point in the growth of sugar cane, inasmuch as in Louisiana it is found necessary to replant the cane every second or at most third year, entailing great expense upon the planter. It requires one acre of cane to plant four or five acres; hence the planter who expects to seed

400 acres must reserve 100 acres of his crop for planting, and this diminishes his output of sugar to that extent.

One large sugar factory is now in operation in Florida using cane grown on reclaimed swamp land. Another one has been organized and is now in process of erection, while others are projected.

Careful surveys of the area of these muck deposits in the Peninsula of Florida show that in all there are about 500,000 acres. From 20,000 to 30,000 acres of this land have already been reclaimed by a system of drainage canals. The great body, however, of this land lies on the southern, western, and eastern borders of Lake Okeechobee. A complete survey has not been made of all this muck land, but a sufficient amount of it has been measured to show that approximately there are about 400,000 acres of it in this one body. Considerable progress has been made in reclaiming the Okeechobee muck land by a system of drainage canals. The Okeechobee, however, is a natural basin, receiving the drainage of all of the central Peninsula of Florida. Its chief tributary is the Kissimmee River, which pours into the lake a vast volume of drainage from the headwaters of the St. Johns through the center of the Peninsula and into the lake itself. The lake has no outlet; the water simply overflows the swamp and escapes to the ocean through the Everglades and through the Caloosahatchee River.

In order to recover this vast body of land, it will be necessary to dig a drainage canal directly to the Atlantic Ocean or to the Everglades of sufficient capacity to carry off all the waters received by the lake. Engineers have estimated that such a canal would have to be 300 feet wide and from 12 to 15 feet deep. It would cost, of course, an immense sum to construct a canal of this kind. There is, however, a body of muck land on the western shore of Lake Okeechobee, the drainage from which supplies the headwaters of the Caloosahatchee River. By building a dike along a distance of about 12 miles of the lake shore at this point and extending the dike westward from each end of it to the pine lands the overflow from the lake into this portion of the swamp could be entirely prevented. A system of canals has already been constructed between this portion of the lake shore and the Caloosahatchee River. The building of the dike mentioned above would therefore secure a perfect drainage of this portion of the swamp through the Caloosahatchee, while it would exclude any overflow from the lake itself. At a very small expense from 20,000 to 30,000 acres of the richest muck land could thus be brought into cultivation.

This locality is entirely free from any danger of frost, and would form the nucleus of a sugar industry which, when once established, would rapidly lead to the drainage of the whole of the Okeechobee country.

The possibilities of agriculture in Florida in the line of the improvement of the muck lands are very great. A few years ago it was supposed that this region was simply one of swamps, alligators, rattlesnakes, and malaria; but a thorough study of the climate and of the meteorological conditions for the past eight years has shown that this view is entirely erroneous. This region is entirely free from malaria; chills and fever are unknown, even among those working in the dredge boats in the swamps. The Winter climate is perhaps the finest in the world—mild, dry, and bracing. The Summers are wet and warm, but even the Summer nights are cool on account of the sea breezes which sweep over the Peninsula from east to west and west to east, bringing the cool breezes both from the Atlantic Ocean and from the Gulf. There is no reason, therefore, to doubt the possibility of the development of this region and the establishment of vast agricultural industries. It is only a question of the investment of a sufficient amount of capital to secure in a proper way the desired results.

Honors to a Scotch Hero.

Scotchmen all over the country will be interested in the colossal bronze statue of Sir William Wallace, to be presented to the city of Baltimore by W. W. Spence. This statue will be placed on a pedestal representing a series of crags, which will be 13 feet six inches high, and will occupy a prominent position in Druid Hill Park. The figure represents Wallace clad in a suit of mail and brandishing his sword. The left hand rests on a shield, part of which is concealed behind the figure. A Scottish horn, like the one with which Wallace summoned his clansmen, is swung at his side. The bearded face bears an expression of determination and courage. The whole figure is full of spirit.

The statue is an exact reproduction of the national monument to Wallace's memory which stands on Abbey Craig, a mass of rugged stone near Stirling, Scotland. It was designed by D. W. Stevenson, in whose studio in Edinburgh Mr. Spence saw it before the unavailing in 1887. Mr. Spence has commissioned Mr. Stevenson to make the reproduction for Baltimore. The following inscription will be placed on the pedestal:

"Wallace—Patriot and Martyr for Scottish Liberty—1305."—*Omaha Weekly Bee.*

Wonderful Montana.

The story of the goose that laid the golden eggs may have been a good anecdote in the good old times before the great West was discovered, asserts the *New York Sun*, but a story from Butte, Mont., overtops it. A few days ago J. A. McConville, who lives in Montana street, killed one of his chickens for dinner and was surprised to find a quantity of gold nuggets in its crop and gizzard. Having 31 chickens that had scratched in the same patch, he began *post mortem* prospecting on them. In each chicken he found nuggets, and the total quantity gathered had a cash value of \$387. The gold was sold to the State National Bank and pronounced 18 carat fine. Mr. McConville bought 50 chickens and turned them out to do scratch mining on the gold fields surrounding his hen coop. After four days he killed one chicken and mined \$2 worth of gold from its crop.

TWO NOTABLE FARMERS' CLUBS.

Interesting Topics Discussed at the Last Meetings of the Gunpowder and Deer Creek Clubs.

AMONG the advanced and successful farmers' organizations of Maryland which have long occupied conspicuous place in public estimation by the practical and progressive views of their members are the Gunpowder and the Deer Creek Clubs, of Baltimore and Harford Counties, respectively, and the reports of their proceedings are read always with interest and profit by their fellow-agriculturists.

The Gunpowder Club held its April meeting at the residence of E. Gittings Merryman, the President of the Baltimore County Agricultural Society, and the well-known breeder of Hereford cattle. This place is the old Worthington farm, afterward occupied and improved by Col. Walter S. Franklin, and which now promises to become one of the most productive, as it is one of the handsomest, naturally, in the vicinity.

The usual tour of inspection showed things in good order and the growing crops promising, though the season was somewhat backward. The big barn was admired for its excellent plan, its generous accommodations for crops and stock, and for the animals it housed, including 20 or more fattened steers ready for the butcher, a dozen head of well-kept horses, the well-known thoroughbred mare, "Kiss-me-quick," winner in many local contests, and a Hannis horse, Mambrino Lawrence, a handsome and promising animal.

In the customary half-hour for questions, Wm. W. Matthews was asked as to the fate of his potatoes planted in February. He said they had not made their appearance above ground, but he had no fears concerning them; and some members told of their plowing up ground in which potatoes were grown last season and finding sprouting potatoes.

Which yields better, oats broadcast or sown by the drill? Some thought the drilled oats stand up better, but the general belief was there was no difference in yields.

How does it answer to sow oats before the ground is broken and plow them in? A. C. Scott never had better crops than when he followed this plan, as he always used to do. S. M. Price had good results from this practice, and will follow it in part this season. An instance was given where in a field where part was sown in oats broadcast and drilled, and another part where the land was not plowed but the oats dragged in, and no difference in yield perceptible.

Members mentioned ailments of their cows and horses. In case of lumpy jaw in a cow, a Veterinary, who made an examination, advised killing her, as there was likelihood of the disease being transmitted through the milk, it being a contagious one. Many horses have been sick this Spring, due to over-feeding corn, too little exercise, and consequent costiveness. Fat horses were the principal sufferers, and mild aperients were recommended to produce a moderately loose condition of the bowels.

The question for the evening's discussion was: "Is there more profit in growing crops and feeding them on the farm than growing and selling them direct?"

L. M. Bacon preferred to feed his products on the farm. He knows more of that system, and it pays better, more manure is made, and the farm is easier and more cheaply enriched. On a farm 15 to 20 miles from the city it will pay better to feed. His corn-ground when manured gave an increase of four barrels to the acre, and he can cover 30 to 35 acres a year with manure, which will show itself in grain and grass both.

Jno. Crowther, jr., said every farmer must judge for himself how to feed, but he prefers to consume his crops on the farm. The farm shows the result of such practice.

Samuel M. Price thought it depended on the man and how he is situated. Space is required to feed all the produce on the farm, and proper buildings must be provided. A man calculated for the dairy business ought to go into that branch. He had not room himself for a dairy. But he does not sell hay—feeds sheep, and thinks it pays. They eat stubble-ground hay, and it does them good.

E. G. Merryman, if he could, would sell no hay or corn. Finds it pays to winter horses, and pays better than fattening cattle. Sheep-raising is profitable to him, as he gets good prices for lambs. Raising horses or stock of any kind, indeed, pays better than hauling produce to market. Young horses have sold at good prices this Spring, and Hereford cattle, even if he is required at times to pay a good price for a bull.

James B. Ensor said a man's situation must answer this question. If everything is fed on the farm more manure is made, and the land certainly becomes richer. If he had means enough to wait for results, would feed more produce on the farm. His crops showed marked improvement where manure is put out. He finds that feeding soft corn and ground corn results in better manure.

Nelson R. Miles believed there was more profit in one way of feeding than another, and boarding horses and feeding sheep are more profitable than feeding for the dairy. This work is laborious and expensive.

Col. W. S. Franklin advocated feeding crops on the farm, and did it when farming. When corn is high and beef low, there is then, however, no profit in such feeding. But in a series of years there is a profit. One year he made a gain of two cents on the pound. There is pleasure and satisfaction in feeding produce on the farm. There would be no pleasure to him in farming, as many persons do, selling everything off and feeding nothing. Besides, hauling to the city is very costly. A neighbor of his had almost intimated that he did not need manure for his farm, relying upon commercial fertilizers to improve his land; but the Colonel placed a high value as a soil-improver on manure from fattening cattle.

Albert T. Love thought the profit in feeding products depends on prices one can realize. In a series of years, he thinks, with Col. Franklin, that it pays to do it. If hay brings \$18 a ton, and corn \$3 a barrel, it pays better to sell them.

Abram C. Scott feeds as much as he can. In the long run it probably pays to feed our products, but it depends on the kind of stock we feed. When grain and hay are high it pays to sell; but one year he made his greatest profit when corn was \$4 a barrel, as then beef sold at \$7 per 100 pounds.

John Bond—A farmer's circumstances and surroundings affect this question, and he must watch his chances. If everybody feed their products, hay and grain will reach much better prices.

John D. Matthews argued that much depends on the situation of the farm, and its distance from a market. From here it takes two days for a team to go to the city, with the necessary expenses. Did not believe daily trips good policy.

T. C. Blair had tried both ways and favored feeding on the farm, though from his place, 22 miles from the city, it took two days to make the round-trip. He instanced the conspicuous success of the late Wm. Woolsey as a farmer, that gentleman not only feeding all his own produce, but often buying corn and provender for his stock.

W. W. Matthews thought boarding horses was a profitable way to feed produce, paying much better than selling it.

The Deer Creek Club held its April session at the residence of its President D. C. Wharton Smith, whose beautiful dwelling and well-kept garden and pleasure grounds were the enthusiastic admiration of all the members. In this club it is the custom for the host of the day to submit the question to be discussed, and Mr. Smith announced as the subject: "Are local organizations amongst farmers practicable or desirable?"

Mr. Smith said farmers in this neighborhood have found some advantages from their Road League, and this had naturally turned their thoughts into other directions of activity and usefulness. The Alliance movement, on the other hand, because of the futility of any effort to cover a field so wide and interests so diverse, had failed to accomplish the good results expected and hoped. This latter movement had also attracted unscrupulous men, who attempted to use it to get into power or to promulgate impracticable schemes of finance. None could doubt that organized co-operation among men in the same line of business produces great good. In commercial life, whenever men meet to transact business, they form exchanges and associations, and farmers might derive great benefit from analogous organizations. Dangers ever lurk in the farmer's path. The farmers' clubs and the local press point them out from time to time, and once a year we march to the polls and vote. But that does not insure wise and prudent legislation. Look at the existing lack of roads that can be used at all seasons.

Could not a State league be formed, with subordinate County leagues and still more subordinate local leagues? Each of these could have a place where farmers might meet periodically and discuss their affairs. Such an organization would get many farmers out of their narrow and selfish ruts. It is healthy and tonic to the minds of farmers, as to men of other callings, to meet and compare views. They are strengthened and encouraged thereby, and such meetings would stimulate good feeling and establish confidence and mutual respect. New ideas would be evolved and a healthy and powerful influence formed to bring to bear upon legislators and public officials.

Wm. B. Hopkins said his experience was that it is impracticable, however desirable it may be, to accomplish any organization among farmers.

John Moores was of the belief likewise that, though desirable, associations such as outlined are not practicable among farmers. They are too much separated to allow of useful co-operation. For instance, there are 40 different kinds of fertilizers sold in Harford County. Were there any concerted action they would find profit and economy in all using one kind. The only things our farmers are agreed upon is in wanting low taxes and one kind of plow. A number of our farmers asked the Legislature to appoint a State road engineer, whose salary would scarcely have cost anything to the Counties, yet some of our best farmers opposed it. They would not unite on this even as an experiment.

James F. Kenly said a great deal of time, energy, and persuasion would be necessary to bring about hearty co-operation among farmers. Men in other lines see its benefits, but farmers will not unite, and if they don't get such protection and encouragement to their calling as they wish by legislation they don't make much fuss.

Robert F. Hanna believed it would pay for them to act together. If they would wait upon the County Commissioners in force and insist upon something being done to improve our bad roads some good might come.

R. Harris Archer pointed out difficulties in the way. It is easy for men in cities to get together and say what shall or shall not be done, but it is hard to get farmers to meet. They are busy by day and tired at night; their interests are diverse, and there is no common ground upon which they may stand.

Wm. D. Lee said a good deal of education was necessary to induce farmers to

act together, but there was no reason why it cannot be done and good work accomplished by such co-operative effort. Our County clubs have been of much benefit. This club, for instance, started the County Agricultural Society and our first bank, gave an impetus to road improvement, and has done much good in the County by its activity in and comment on local affairs and undertakings.

Edward P. Moores believed there might be much more brotherly feeling amongst farmers than there is now without regular organizations. We have heard a great deal about our Farmer Governor, who farms on the corner of Charles and Saratoga streets, Baltimore; but when an opportunity offered to do the farmers a good turn he gave them the cold shoulder and favored the capitalists. If farmers had taken more interest, forwarded petitions, and sent delegations, he might have taken more notice of them. Every other business has an organization, and can fight through the Legislature laws favorable to its interests; but the farmers sit down quietly, let things take their course, satisfied to take the crumbs that fall from the rich man's table.

S. A. Williams said the difficulty in effecting co-operation among farmers is due to the diversity of interests amongst them over our large country, which are almost as varied as the products of the soil themselves. Because of this diversity common action must be brought about by education and agitation. This education is rapidly acquired in cities where men come in frequent contact. Farmers live at great distances from each other, and must depend upon farmers' clubs and road leagues to give the education and offer opportunities for agitation, which will prepare them for and lead to co-operation. He could see great improvement growing out of these agencies, and they are tending toward effectual co-operation.

What is first needed, locally, is improved roads; for better facilities for travel of themselves would simplify the problem of co-operation by enabling farmers to meet together more frequently, and at less cost of wear and tear of vehicles, horse flesh, and patience. The State ought to aid the Counties in improving the roads—Baltimore City being interested in good County roads as well as in railroads. Hand-in-hand with State aid for public roads is the oyster question. A proper development of the oyster beds of the Chesapeake would result in a revenue which would enable the State to improve our main thoroughfares. But this will not be done until the Counties bordering on the bay take the matter in hand and settle it.

Before the Club adjourned, Mr. John Moores offered the following resolution, which was adopted:

Resolved, That it is the sense of this Club that "Farmer" Brown should have signed the Assessment bill, and that, as he failed to do so, he should hereafter be known as "Governor" Brown.

A MAGNIFICENT SPECTACLE.

The World's Fair As It Will Appear.

The following is from Mr. Van Brunt's description of the Columbian Exhibition in the May Century: "We have already said that this vestibule was intended to introduce the visitors to the Exposition into a new world. As they emerge from its east archway and enter the court, they must, if possible, receive a memorable impression of architectural harmony on a vast scale. To this end the forums, basilicas, and baths of the Roman Empire, the villas and gardens of the princes of the Italian Renaissance, the royal courtyards of the palaces of France and Spain must yield to the architects, 'in that new world which is the old,' their rich inheritance of ordered beauty, to make possible the creation of a bright picture of civic splendor such as this great function of modern civilization would seem to require.

"At the outset it was considered of the first importance that the people, in circulating around the court and entering or leaving the buildings, should, so far as possible, be protected from the heat of the Midsummer sun. To assist in accomplishing this object the great quadrangle will be closed in by a series of sheltered ambulatories, like the Greek *stoa*, included in and forming a part of the facades of the palaces of Machinery and Agriculture on the right, and of the Liberal Arts and Electricity on the left. The vast fronts of these buildings, far exceeding in dimensions those of any other ancient or modern architectural group, with their monumental colonnaded pavilions, their sculptured enrichments, their statuary, domes, and towers, will appear in mellowed ivory marble, relieved by decorations in color in the shadowy recesses of the porticos. Immediately before him the stranger will behold the great basin 350 feet wide and 1,100 feet long, stretching eastward in the middle of the court, bordered with double-walled terraces, of which the lower will be decorated with shrubbery and flowers, and the upper with balustrades, rostral columns, vases, and statuary. Broad stairs descend from the main porticos of the buildings to the water, and the canals, which enter the basin on each side, are crossed by monumental bridges.

"On the nearer margin of the greater basin, and in the axis of the court, he will see a smaller circular basin 150 feet in diameter, on a level with the upper terrace, flanked by two lofty columns bearing eagles. In the center of this, on an antique gallery of bronze 60 feet long, eight colossal rowers, portraying the Arts and Sciences, stand four on a side, bending to their long sweeps; in the prow is poised the herald Fame, with trump and outspread wings; while, aft, Time, the pilot, leans upon his helm, and high aloft on a throne, supported by cherubs, Columbia sits, a fair, youthful figure, eager and alert, not reposing upon the past, but poised in high expectation. Eight couriers preceded the barge, mounted upon marine horses ramping out of the water. The whole triumphal pageant is seen through a mist of interlacing fountain-jets, and from the brimming basin the

water falls 14 feet in a series of steps into the greater sheet below, a half-circle of dolphins spouting over the cascade. This pompous allegory is the work of the sculptor Frederick MacMonnies. At the outer end of the basin a colossus of the Republic, by the sculptor Daniel C. French, rises from the water. It is treated somewhat in the Greek archaic manner, with a strong accentuation of vertical lines, but with a simplicity and breadth which give to the figure an aspect of majesty and power. Beyond it a double, open colonnade, or peristyle, 60 feet high, like that of Bernini in front of St. Peter's, forming three sides of a square, closes in the great court toward the lake. Of the two wings of this colonnade one is a concert hall, and the other a casino or waiting-hall for passengers by boat. Its columns typify the States of the Union. In the center of this architectural screen is a triumphal arch thrown over the canal which connects the basin with the harbor. Through this and through the open screen of the colonnade one may see the wide-spreading lake, the watery horizon, and, still in the axis of the court and a thousand feet from the shore, a lofty pharos with an island-casino at its base. Animating the whole, bannets and gonfalons flutter gaily from innumerable staffs; people of all Nations walk in the shadow of the porches, linger on the bridges, crowd along the broad pavement of the terraces, and watch from the balustrades the incessant movement of many-colored boats and electric barges upon the water."

SUNFLOWERS IN RUSSIA.

Raised for Oil, Cattle Feed, Fuel, and as a Fertilizer.

Consul-General J. M. Crawford, of St. Petersburg, has been investigating the culture of the sunflower in Russia, and reports that there are over 700,000 acres of land devoted to the sunflower culture in the Empire, although the first effort to grow this plant for mercantile purposes dates back no further than 1842.

The chief product is the seed, the average yield of which has been about 1,350 pounds to the acre, this selling in Russia at an average price of one and one half cents a pound. The yield to the farmer growing sunflowers is about \$20 an acre, against the usual return of about \$10 per acre for ordinary products, and the soil in which the sunflower is grown becomes very porous and better prepared for the rotation crops. The seeds of some species of sunflowers is used in making oil which, in consequence of superior color, flavor, and taste and its low price, has largely taken the place in Russia of the French table oil. In another species of sunflower the seeds are sold to be eaten somewhat as peanuts are in this country. After the oil has been pressed out of the seed it is sold in a cake form as food for cattle, the exports of this from Russia to Germany, Denmark, and Great Britain aggregating of late years nearly 100,000,000 pounds a year.

The sunflower stalks are gathered from the fields and dried in piles, and have very largely taken the place of firewood in the country districts. In fact, these stalks are preferred even to pine wood, producing a quick and hot flame fire. As about a ton of such firewood is gathered from an acre of land, this is looked upon as a decided advantage in those districts where wood is scarce. The ashes of the sunflower contain a high percentage of potassium, and are largely used as a fertilizer. Under the system of cultivation adopted, the stalks of the sunflower are often three inches in diameter and about eight feet long, sometimes forming many heads, some of which are more than a foot in diameter and containing about 2,000 seeds. In order to grow the plant profitably, it is necessary to have a fertile soil, which at the same time must be sufficiently deep and compact to sustain the stalk with its roots.

Queen Bees's Mead.

Comparatively few people nowadays know from personal experience what mead is. A sweet, sickly, honey drink, which the concoctor called mead, was once proffered to me in a country place as a sovereign remedy for a cold, but of the two the cold seemed the lesser evil. The Russians still make mead *secundum artem*, but only in remote parts of England is there any of the drink of the Norse divinities yet to be had. The writer of an article in the Manchester *Quarterly* some time ago mentioned with enthusiastic approval some very old bottled mead which he met with in the course of some rural wanderings, and it is conceivable that a sweet and luscious beverage like mead would gain immeasurably by age. Queen Elizabeth was a mead drinker, and Her Grace's recipe for the beverage has been carefully preserved. It seems a fragrant mixture:

Take of sweetbrier leaves and thyme each one bushel, rosemary half a bushel, bay leaves one peck. Seethe these ingredients in a furnace full of water (containing not less than 120 gallons); boil for half an hour; pour the whole into a vat, and when cooled to a proper temperature of about 75° Fahr., strain the liquor. Add to every six gallons of the strained liquor one gallon of fine honey and work the mixture together for half an hour. Repeat the stirring occasionally for two days; then boil the liquor afresh, skim it until it becomes clear, and return it to the vat to cool; when reduced to a proper temperature, pour it into a vessel from which fresh ale or beer has just been emptied, work it for three days and tune. When fit to be stopped down, tie up a bag of beaten cloves and mace—about half an ounce of each—and suspend it in the liquor from the bung-hole. When it has stood for six months it is fit for use.—*The Gentleman's Magazine*.

Money Saved.

Little Wife—I saved \$30 to-day.

Loving Husband—You're an angel. How?

Little Wife—I saw a perfectly lovely easy-chair that I knew you'd like, and I didn't buy it.—*New York Weekly*.

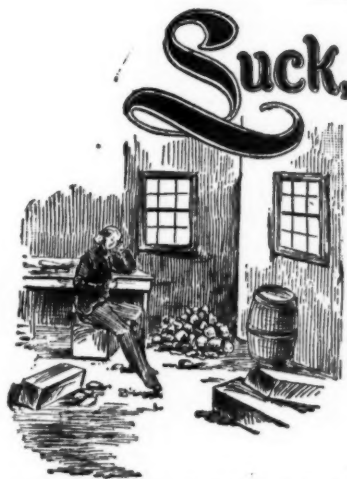
THE GOLDEN SNAIL.

A Dream of Wealth Beyond the Wildest Hopes of Avarice.

BY ARMIGER BARCZINSKY.

I.

THE SECRET.



GOOD or bad, is an element of existence, I suppose. Rules the most fixed are swayed by it; circumstances the most exact are affected by it; facts, events, incidents, and accidents occur or not as fortune favors, and, therefore, in the one word luck we sum up the multitude of combinations and uncertainties which govern life.

I am an old man now, shattered in health and very feeble; even my spirit, which at one time I would have defied anything to break, is now utterly gone from me. Poor I always was; men whose whole soul and being are absorbed in study and research as mine have been seldom seek wealth.

When one is near 60 years of age it is too late to begin to change one's style of life, one's very nature. Alas, that wisdom

goes not hand in hand with years! I speak not of experience as the world has it—that I never possessed, unless it were of living things, their ways and inner life.

But let me tell you who I am. My name is Amer Stol, and I am a Hollander. Yet am I English, too, if 20 years spent in your country count for anything. Twenty pleasant years they were, albeit passed in semi-poverty and loneliness, for my work brought me but a scanty livelihood and no friends.

I was a young man—35—when I left my native town of Weert, which is on the banks of the Buyt. A desire to see the world took me to your great City of London. A sight of your great museums and storehouses of natural treasures attracted me and gave me a desire to remain in England. One who knows his subject well need not be idle. I easily acquired your language and found work in classifying collections and revising works bearing on the subject with which I was familiar.

Thus I spent 20 years, living always in the same house. My room, high up above the smoke and noises of the city, knew of no inmate but myself. It was a poor place, scantily furnished, hot in Summer, cold in Winter, for the roof only separated me from the sun's rays or the frosts and snows. In it I had, however, stored a goodly quantity of those objects with which a naturalist loves to surround himself—specimens of ores, plants, fossils, and many shells. The dust heap, the gutter, the neighboring chalk cliffs of Kent and Surrey, the sweepings of sales-rooms, had each contributed something to my collection. For 20 years it increased in size, and to me in interest; still, it contained no object of undue importance until I brought home the thing, the small piece of material substance, which was to bring me joy, wealth, and—despair!

I will tell you how it befell me to gain possession of this addition to my collection. Too poor to buy, I yet could not refrain from attending a great sale of geological and other specimens which I had seen advertised. Among the foremost, and nearest the trays and cases in the salesroom, a fragment of shell caught my attention. I had no sooner taken it in my hand for nearer examination than I was hustled from the heap on which it had reposed. Regarding it carefully, my attention at once became fixed on seeing that it was of an order with which I was unfamiliar. My growing interest soon developed into abstraction as I tried unsuccessfully to find its name and species. I thought no more of the other and costlier objects surrounding me; I paid no attention to the eager bidding for rare specimens; I heeded not the moving throng of buyers and collectors in whose midst I stood. Unconsciously I made my way out, the shell still in my hand, and returned to my room in the clouds.

The sight of the familiar objects of my home brought back my thoughts to commonplace matters. I looked at the shell and experienced an uneasy feeling at still having it in my possession; but as I gazed at the fragment—for it was nothing more—and noticed it was not labeled, my fears gradually left me. "No one could set store on so small a thing," I said; and yet I was beginning to value it exceedingly, it was so strange to me.

That evening I spent hours in attempting to classify my new specimen. That it belonged to the group Pedifera, class Gasteropoda, I felt nearly sure. It would have been no disgrace to have mistaken so small a piece, and determined it Brachiopoda or Conchifera; but I did not fall into this, as you will hear. To give it its proper order seemed a task beyond my powers; its family I did not even attempt to guess at; I could get no further.

Deep in thought, I began to rub the shell gently between finger and thumb.

In doing so I removed a thin layer of dirt which coated it. Presently, on its outside and concave surface a fine, deep-blue tint revealed itself. I turned it over, and started as I noticed the inner side covered with minute spots of what looked like gold. I was completely mystified. Quickly I fetched a strong magnifying glass, through which the spotted surface had the appearance of a thin layer of metal with thicker and slightly tuberculated portions scattered over it.

The adornment of a shell with gold is very unusual, at least I had never heard of it, and I wondered greatly. Presently I remembered I had some aquafortis in my room, and without delay applied it to the shell. In a few moments the acid had eaten into the remaining patches of dirt, and brought the pure gold—for such it undoubtedly was—into stronger and brighter relief than before. To a student of nature this result was as stupefying as it was interesting. I was both pleased and puzzled; I did not dare to hope that I had discovered a new Gasteropod, for I assumed that some foolish person was to blame for this embellishment, this gilding of the rose, if so I may express myself. "But why on the inside?" I asked myself. "Would not a jeweler have chosen the exterior for adornment of this kind?" But I could not supply an answer. A multitude of conjectures, however, presented themselves. The rough inner surface may have caught up small particles of the metal, and these had possibly adhered to it. The entire shell itself might, perhaps, have been used by a goldsmith as a vessel for containing gold; even the fact of dentists using the precious metal in its pure state occurred to me, and many other surmises; but when I remembered the apparent rarity of the shell itself, all these inferences would vanish. For many days the shell occupied my thoughts, but I had no success in the identification of it. In the meantime I resumed my daily labors, and among the great collections of the museums and of private persons by whom I was sometimes engaged sought for a clue to my Gasteropod.

I have said I had no friends; my acquaintances were very few. It was an event for me to come across an occasional compatriot engaged in a similar work to my own, and only one or two had I met thus. One—a metallurgist—had been a lodger for a brief period in the house I occupied. I had not seen him for more than a year—perhaps two—I did not count time by his absence. About six months after I had found my shell he suddenly returned and sought his old lodging. He had been in the Dutch East Indies engaged as assayer on a gold mine until ill-health compelled him to return; he was going to Australia as soon as he could hear of something to do there.

"And you, old fossil," was his greeting, "how goes it with you? Have you found the philosopher's stone yet, or discovered the elixir of life? To look at you one would say you badly needed both."

I told him he was mistaken, gold I did not value much; that I was contented to live mindful of death.

"Enough, and more than enough, seems to be your motto, my friend," he said.

"Well, it is much to be satisfied; I cannot say I want for nothing," and he laughed.

"You are young, Van Earp, and youth is not easily satisfied, I suppose," was my rejoinder.

"Not if I be an illustration of youth, Mynheer Stol. No, only fools are contented in this world—pardon me, you allow you are no longer young."

He paused thoughtfully, and then continued in an eager tone:

"Do you know it is discontent that brings wealth? To be satisfied is to avoid good fortune. If I have a thing, I want more of it; if I succeed in obtaining more, then I desire more still. The poor have to be satisfied, the rich never are. Poor I am not and will not be, for I am discontented and my discontent shall bring me wealth!"

His face was full of determination as he spoke. I thought to myself of the great difference there was between us—he keen in his desire for gold, possibly unscrupulous in his quest for it; I totally uninterested in its acquirement, not even desiring it; yet I said, smiling:

"You long for wealth, Van Earp; I possess it."

"You! you have riches!" he exclaimed, looking at me from head to foot and adding, scoffingly, "you do not carry them about with you, I fancy."

"That I do," I laughed, "for they consist of a little knowledge and much contentment."

"Pah!" he exclaimed with scorn; "do they give you ease and comfort, luxury, and power? What do they weigh against gold, the one and only thing worth living for? See," he continued, fingering his watch chain, and holding it out toward me, "here is an emblem of the best of earthly treasures—nature's brightest jewel, a golden snail!"

I looked, and my breath came quick, my pulses beat fast, my heart thumped within my breast, my throat grew suddenly dry so that I could not speak, for extended toward me Van Earp held a small and beautiful shell, dark blue in color, whose exterior to the edge of the lip glittered with the brightest gold. In the space of a moment I recognized what it was. He had in his possession a perfect specimen of the Gasteropod, with which my fragment was identical! And it was a Gasteropod of the order Pulmonata, family Helicidae, a true snail; and quicker than thought I knew its lining was the work of nature and not of man's embellishment.

I believe in my excitement I must have snatched at it, for he drew away from me, saying:

"Gently, gently, Mynheer Stol; surely you have not suddenly become desirous of wealth, too? My talisman is too precious for other folks' fingers. I have gone far to get it, and cannot share it with anyone."

"Where, where did you find it?" I asked breathlessly.

"In the mines of Nelo, in the sea of Java. 'Tis all I brought from thence."

"It is very rare," I said; "you have never seen another?"

"Oh, yes, there are many such. Nelo is an island full of creeping things."

"Creeping!" I almost screamed. "Creeping! You say you have seen the living animal."

"Do not excite yourself, my friend. The body itself is not also of gold; had it been I should not have left it behind."

"It is not that—I did not imagine that," I faltered. He seemed waiting for an explanation of my astonishment, which I (pondering over the mystery of the golden snail) did not vouchsafe; for I saw he did not appreciate his discovery at its right value. Gold-seeking blockhead that he was, he had not the sense to turn it to account.

And I in that moment felt my nature changing. Desires that I had never yet experienced excited me; hopes I had never yet entertained framed themselves in my mind; my blood began to course violently through my veins; my pulses throbbed with new life, for the fever of gain was burning within me. I was again young, hopeful, courageous, and discontented. I also would be rich; I was so already in the knowledge of the secret of the golden snail which Van Earp ignored.

"I am much interested in shells, Van Earp," I said, trying to conceal my agitation. "A fragment of the same species as the univalve at your watch chain came into my possession lately; I would know more of it; tell me what you can concerning it." And he told me his secret all unconsciously, while I, inflamed with desire for the wealth which his words gave me, eagerly drank in the substance of his story.

He had gone to Nelo as assayer to a Dutch company who were working some gold mines in the island. These mines did not yield very largely; the pay was not great, and the prospect of advancement small; therefore he had resigned his post, and was about to leave when he fell ill of a fever. An old Malay doctored him during this illness, and during his convalescence told him of various properties which the Papuan natives attributed to the shell. He had previously noticed the "gold snails," as they were called, but without observing them closely, nor imagining the brilliance of their interior, due to auriferous matter. As soon as he was well, however, he determined to secure a specimen, his Malay doctor averring it to be a charm against fevers and an omen of future wealth to whoever wore it. He searched for the animal, but, owing to its being the dry season at the time, failed to find one. Subsequently the old Malay brought him the present specimen in a state of torpidity, telling him he had found it in a cavity of the quartz reef.

"So, if you yearn for a golden snail of your own, old naturalist," he concluded, "you know where to find one."

I said, thoughtfully, that I wished for one.

"Then go out as assayer in my place. The company will, doubtless, engage a Dutchman for choice, if he knows the work and will take the pay."

"You are sure?" I asked, longingly; and I must have betrayed myself, for he looked searchingly at me as he replied:

"You believe the shell is a talisman, then?"

"No," I said; "I seek no talisman; I want the shell; it is an unknown specimen, I believe, and—well, old naturalists have their crotchets, and this one is mine."

"So be it then," he returned, ironically. "You know the company—the Nelo-Salton gold-mining syndicate. Go to their offices, and say I sent you for the 'Golden Snail!'"

"Thank you, I will," I said joyfully, and left him, adding to myself: "The golden snail! Nature's brightest jewel, the best of earthly treasures! Yes, Van Earp, you are right; but 'tis not for you—not for fools like you; it is mine. Oh, great secret treasure!" I cried aloud: "Golden Snail, *Helix aurifera*! I will find you and cherish you—and you—you shall wax numerous as the sands of the seashore, for I will multiply you exceedingly so that you breed gold!"

II.

THE SEARCH.

Perhaps you wonder at me for rushing to the conclusion that I should obtain gold in a manner seemingly so contrary to nature, and fancy me demented for entertaining such a wild idea. When, however, I tell you my reasons for deciding that such a result was feasible, you will understand my agitation on leaving Van Earp, and the certainty I felt of having correctly established my theory.

During my conversation with the metallurgist my tongue had been paralyzed, but not my mind. From the moment of his explanation—almost from the moment when my eyes first gazed upon it—I was busily recalling every particle of knowledge bearing on the animal to enable me to account for the unusual appearance of the gold. To reproduce precisely all that passed through my mind during those few moments would be impossible. Briefly, my thoughts were as follows: This wonderful snail, whose proper designation should be *Helix aurifera*, possessed properties of secreting the precious metal as a lining to the interior of its shell. How was this property obtained? Evidently by feeding on auriferous matter, for snails form their shell entirely from what they consume! How account, then, for the hard, calcareous covering, the deep, blue whorls above the gold? By assuming the animal to be partially a vegetable feeder, endowed by nature with the instinct of protecting itself and treasure house the more effectually, what were the arguments in favor of crediting the mollusc with the power to consume the ore—perhaps to disintegrate the quartz itself? Here I had a triumphal answer. The teeth of the Gasteropoda are silicious, insoluble in acid, and can be

used like a file for the abrasion of very hard substances. The limpet rasps the stony mullipore; the whelk bores holes in other shells. The latter has 100 rows; the great slug 160 and 180 teeth in each row, and these teeth are all placed on the tongue, whose folds sometimes extend back to the stomach. There was another point in favor of the reproductive power of the animal, perhaps less satisfactory, but yet worth remembering. The Tyrian dye was the production of a Gasteropod, *Murex trunculus*, whose principal food was the blue-colored aculephæ; other molluscs, too, had the same property of secreting a violet fluid extracted from the matter on which they fed. Nature had endowed the oyster, another mollusc, with the attribute of forming a precious substance within its shell, and of coating the shell itself with a lustrous lining. There was no room to doubt my snail to be a gold-producing animal. I had but to find two of them, supply them with their proper food, and nature would do the rest. Once found, acclimatization of the animal would be easy. Remembering the *Scalaria* as an inhabitant of both the Eastern Archipelago and the Mediterranean, I had no fears on that score. Snails might be transported with facility from place to place, and, properly packed, kept in a healthy state for months together. They increase rapidly, are provided with a shell from the moment they are hatched, and undergo no change as they approach maturity!



"AT LAST, AT LAST!"

These were the salient points which flashed through my mind, and gave me the means of using Van Earp's secret to my own advantage, of proving his talisman a veritable Golconda in a manner which he, with all his superstition regarding it, little dreamed of.

I immediately solicited the post of assayer from the company, and good fortune favoring me easily proved my claims to it, and was engaged. I was to leave within a month and embark at Rotterdam on board of a vessel bound for the port of Coupang to the southwest of the Island of Timor. The pay offered me was small, but I gave little thought to that, knowing what I did of the treasure awaiting my arrival in Nelo; moreover, it was sufficient for my purpose.

I provided myself with a tin box about 12 inches square, filled it with clean sawdust and enveloped it in oil silk, rendering it moderately air-tight. In this I intended to carry my snails. I also bought several small wooden boxes to contain the seeds of such native plants as the animals preferred, but these I fortunately had no occasion to use. Lastly, I equipped myself with a small but strong leather-covered case to hold the few ounces of pure gold which I should need on my return.

I had hitherto avoided Van Earp; I was, with reason, afraid of discovering my hopes to him; but after the crisis through which I had passed I felt mentally strong enough to seek him out and question him further on the subject of Nelo, its mines, and Golden Snail, disguising the while my interest in the matter.

I found him easily enough, and conversed with him on the topic nearest my heart; but although he gave me much information of a general nature concerning Nelo, he disclosed nothing of fresh importance regarding the Snail. Indeed, I doubt whether he thought much about his talisman, as he called it, and I did not desire to awaken any suspicions by persistent inquiries into the subject. Ultimately we parted, as at last the time drew near for me to embark. As he bid me farewell and wished me success—somewhat ironically, I thought—he said:

"Do not blame me if the Golden Snail does not lead you to fortune, Mynheer Stol. It is a creeping thing, and goes slowly, and you have not too long to wait!"

I could have struck him for his egotism and smiling ridicule and overbearing vanity in assuming that fortune was only for such as he—the virtues of the Golden Snail for him alone!

"Fool! idiot!" I muttered to myself, "you shall curse the day on which you uttered those taunting words, for Amer Stol shall show you what brains can achieve against the assurance of a dolt."

The following week I was in Rotterdam. It was now the middle of May, and my ship, a bark named the *Margraten Wiltre*, was to sail within a few days. The passage to Coupang was expected to take three months; about a week would have to be spent there before a coasting vessel, sailing through the Strait of Floris, would reach Nelo; thus I should get to my destination before the end of August, and—ecstatic thought!—see my *Helix aurifera*, my precious Snail, before the dry season set in.

In Rotterdam I reported myself, according to instructions, to the company's agent there, who gave me parting directions and letters to the engineer at the mines; then I embarked, and two days later the *Margraten Wiltre* left the mouth of the Maas and commenced her voyage.

I will pass over the weary months during which, cooped up in the vessel, I despaired of ever seeing land again. For 140 days we were tossed about and beaten by the cruel waves; scarcely a favorable wind did we get for any but the shortest period; at one time becalmed for weeks, at another driven hundreds of miles from our course by storms. Fate seemed entirely against us. As for me, an old man of nearly threescore years, wanting strength to bear the hardships of the inhospitable ocean, and tormented with the ever-recurring thought that I should only reach Nelo to succumb to its fevers and malaria, I was nearly driven frantic with despair and hope deferred.

Not until the end of September did we anchor off Coupang, our ship a partial wreck and our sailors suffering from scurvy. Still another fortnight I had to pass here before a vessel left for Nelo, and it was not until the first week of October that I set foot in the land of my dreams, unhappily unconscious that a whole season must elapse before I could attain the object for which I had traveled so far.

Unutterably weary in mind and body, I yet had to begin my duties without delay. Since Van Earp's departure a large quantity of ore requiring amalgamation and reduction had accumulated. I was so busy for several weeks that I had little time to look about me, and when at length my work slackened the dry season had so far advanced that I could find no trace of a living mollusc.

I was not idle, however. I found much to study in the physical features of the place, its geological formation, flora, and fauna. The island consisted of a series of broken or disjointed ridges, of small altitude, covered with jungle, whose lower levels were swampy and unwholesome. The gold-bearing portions of the island were of the usual formation, the ore itself being composed of such matters as silica, blende iron, and arsenical pyrites. Very little of the gold was visible to the naked eye, but once extracted it was in so fine a powder as to be nearly impalpable and of the richest quality. The plants were most beautiful, fragrant in their flowers, and aromatic in their fruits. Every vegetable product had its leading quality in the highest perfection.

Nelo seemed to be the home of many forms of animal life unknown in other latitudes. Birds, insects, reptiles, flowers, and plants, all were new to me. In all its natural aspects it was admirable and strange—a fitting home for a snail of gold.

During the following months the salubrity of the climate was such that I regained health and strength, for the island was little affected by the monsoons and parching winds of Australia. Still the feverish anxiety to find my snails never left me. I came across specimens of the shell on the persons of the natives and Malays, who wore them like Van Earp, as charms, but of the living animal I could learn little; no one seemed to have been sufficiently interested to notice it among the many strange forms of life abounding in the island, nor could I find one, carefully as I searched.

At last, at the end of February, the drouth ceased and the atmosphere began to be charged with moisture. With feelings of keenest joy I regarded the change which would bring forth the snails from their hiding places and terminate my suspense; for many a time I had doubted their existence and despaired of finding anything but the useless shell. I now rose before the sun and sallied out of a morning, my eyes bent toward the ground, a prey to a thousand hopes and fears as every moving thing caught my glance. But my perseverance earned its reward at last. I had been wandering in the jungle, where the humidity was greatest, and here I sought most constantly. Finding nothing, I turned to cross the workings in the mine which lay between me and my hut. I gained the main lode, a solid wall of quartz standing like a scarred monument of Titanic proportions, when, glancing upward, the glitter of something bright on the ledge of the rock held me fascinated.

In a moment I recognized the slime made by the trail of the *Helix*! For a yard or more the telltale viscous indication spread upward. With strength begotten of excitement, I clambered on to the ledge, and at the level of my breast there faced me, clinging to a cavity in the quartz, THE GOLDEN SNAIL!

"At last, at last!" I cried; "I have found you, most beautiful of living things, most potent charm! You live, and for me alone—for I only know your secret, and will keep it! For months I have sought you, ah! so longingly, and now my eyes gaze upon you, my hands touch you! See the power you have—I am young once more, strong, brave, and loving! To you I devote my life, consecrate my soul; you are my god!"

Then I bent down and prayed, worshipped the creeping thing, so low and yet so high a form of life, as if it were indeed a deity! Great beads of perspiration stood on my brow, and I felt dizzy and faint as I rose to watch the creature.

Dark and lustrous blue to its shining lip, whose golden ring encircled it as with a halo of light, it dragged its slow length along. The body was of a golden yellow color, and had all the external appearance of the *Helix hortensis*, or common garden snail. I watched its movements until, fearing it would escape me by crawling out of my reach, I detached it tenderly from the quartz and descended with it from the ledge. Then I hastened home and deposited it in a safe place, with a handful of fresh leaves and a sprinkling of gold dust for food.

That same day I found three more snails; in a week I had more than 30, all full-grown and healthy specimens. They seemed to thrive on any kind of vegetable food, only showing a natural preference for the tender leaves. A young cabbage leaf—grown under the greatest difficulties by one of the European settlers—they devoured with avidity, convincing me that I need be under no apprehension of not satisfying them in a temperate climate.

My hopes were now almost consummated. Nothing further was to be done but to return to Europe, where, hidden in some populous town, I would carry on the operation of breeding my golden snails, unsuspected and unnoticed; where, amid the toil and struggle for the poor prizes of commerce and skill, I should quickly and silently build up treasure beyond the dreams of avarice.

III.

GOLD AND ASHES.

With what different feelings did I make the voyage back to Europe from those I experienced during my journey to Nelo. Then I was all unhappiness and anguish of mind; now I was elated, light-spirited, burning with hope and joy. A load of years seemed lifted from my life; physically and mentally I enjoyed once more the pleasures of youth. I was a changed being, and all this the work of a charm—the talisman of gold.

The incidents prior to my departure from Nelo, the difficulties in the way before I could resign my post, I will leave unwritten. Suffice it that after a short and happy voyage I once more gazed on the busy port of Rotterdam, after exactly one year's absence. But I did not tarry long in my native land. After due and deep consideration of my future I came to the conclusion that London was the one and only place for my purpose. When I arrived there I studiously avoided my old lodging, seeking a residence far from its locality, and shortly found one. It was a large old house situated in the northern suburbs, with a great conservatory attached to it. Having sufficient money to do so, I rented it for six months, with the option of continuing in it for a longer period. Here one glorious June morning I installed myself.

As I entered the house I turned the key in the door, then made a careful search all over the building from the cellars to the attics, but I found no one to interfere, none to play the spy upon my doings; all was quiet, my echoing footsteps the only sound to disturb the stillness.

Satisfied that I was alone, I entered the glass house, my carefully-preserved box of snails in my hand. I opened it, and from the sawdust with which it was filled took the animals, some 80 in number, and put them into a vessel of water. A few minutes after immersion they all showed signs of life. Quickly I fetched the bundle of fresh leaves with which I had come provided; cast them about the place, and then scattered an ounce of the Nelo gold dust upon the concrete floor.

The day was warm, still I kindled the fire which heated the pipes, and soon the thermometer rose to 80°, the mean temperature of Nelo. Drawing a seat up to a window of the adjoining room which opened into the conservatory, I closed the door and sat watching the snails. For hours I sat there, feeling no want for food, watching the molluscs move from spot to spot, crawl up the old vine, whose foliage at once provided them with suitable food—saw them creep from patch to patch where the gold dust had fallen thickest, take an inappreciable quantity from the edge of the spot and then move elsewhere. Not until night had fallen did I quit my seat to partake of a short and simple meal; then by the light of a lamp I commenced the construction of the apparatus for reducing the shell of the Golden Snail, the materials for which purpose I had brought with me.

I must pass over three months, during which time my snails bred and multiplied to an inconceivable extent, and I, when not engaged in working at my apparatus, sat at the glass door and watched them always.

In these three months two new generations of snails had come to life; in a few more days a third would follow, for the eggs numbered from 30 to 50, and the period of incubation was but two weeks. The glass house now contained, as near as I could tell, some 130,000 snails; fortunately it was large and would hold many times this number. Still, I dared not let them increase further, or I should be unable to deal with them; as it was, I should rise each morning to find about 150,000 snails newly born, and this number I intended to destroy daily, thereby

earning 800 ounces of gold in each 24 hours, for the average weight of gold in the shell was no less than three grains.

In a state of extreme mental agitation I commenced my first day's work. With an iron bucket, which I was obliged to fill indiscriminately with old and young, I carried the snails to the furnace I had already built in the adjoining room and cast them in. Forty journeys I had to make backward and forward before the day's consumption was completed, and then I had to continue the process and run off the gold into molds.

The first day's work realized 17 brilliant ingots of a pound weight each, the second and succeeding ones 60 to 70. Far into the night I worked, until toil-worn and exhausted, I threw myself down, dressed as I was, to sleep for a few hours only. Intense excitement gave me strength to cope with the gigantic task I had set myself. I worked unceasingly; no rest, no Sunday respite did I take, for I said to myself I would keep incessantly at work for three months, when, possessing more than 6,000 pounds weight of the precious metal, I would stop, destroy all traces of the snails, and realize my ingots.

But the three months passed and I could not cease; a craving for more—the discontent of Van Earp seized me, I was still dissatisfied and I continued. Yet, toil as I might, destroying millions of the animals, still they bred on. Their rapid increase at last began to cause me some anxiety. I had allowed their number to become too great, and now could not diminish it. Seized with alarm, I began to

carry double my usual daily quantity to the furnace, working with desperation the while, but my efforts seemed to make no appreciable difference to the numbers within the glass house. They began to escape from their confinement, passed through the door while I was at work, penetrated to the upper floors, where in dark and



"YOU! YOU HAVE RICHES."

secluded corners they silently bred and multiplied. I killed all I could find, recklessly annihilated thousands in my passage to and fro until the floors were strewn with mangled bodies and broken shells, from among which, however, the bright gold shone as from a pavement worked in metal.

A mania for destruction took possession of me, the slaughter I indulged in became so brutal that at length it shocked even my impaired senses, and I desisted from my horrible task.

Above my reach the snails coated the walls, clung in clusters to the ceilings, covered every inch of surface, every piece of furniture, every spot within the house; they penetrated into my few cooking utensils, crawled within my bedding, and still bred on! The contaminating encroachment continued always. I could not move for the awful mass of dead and living matter surrounding me. The atmosphere I breathed became poisonous with putridity, and all was intensified by the heat of the furnace. Had I been a reasoning being at this time, disgust unutterable would have put an end to my loathsome occupation, but my whole soul was steeped in an unholy lust for gold. I heeded nothing else, had no other aspiration, and, absorbed by one idea alone, my mind had no room for reflection on other matters. Almost naked and covered with the corruption amid which I lived, I still toiled on, performing superhuman tasks. The stream of gold flowed without intermission. I had no time now to range the ingots symmetrically in solid walls of metal; I could but cast them out of my way, and where they fell disordered heaps grew and grew until their ponderous masses threatened to engulf me. I knew not what quantity there was, I had long lost count of it, each room of the lower floor contained its glowing heap swarming with the creatures that gave it birth.

Despair seized on me. I grew distracted with the ever-increasing magnitude of the animate and inanimate matter encompassing me. I raved, cursed the animals whose prolificness was fast driving me to madness; yet I could not cease from converting them to gold, to discontinue my unhappy employment was beyond my power. I had made the Golden Snail my god and was powerless!

I had long ceased to find food for the molluscs, but this was no hindrance to their growth; they fell on one another, devoured the mangled bodies which at each step I killed in hundreds.

November must have come and gone, for outside it was very cold; within, the heat was stifling. I had eaten nothing for many hours and was faint for want of food. Having nothing in the house, I sallied out to purchase some, and returned, devouring on my way what I had procured, like a starving man. I reached the door, entered, feeling sick and faint, tottered toward a heap of ingots, and fell. I remember no more.

How long I lay thus I cannot tell; what form of weakness prostrated me I shall never know. When consciousness returned to me all was dark and very cold. I attempted to stretch out my hand, but failed to do so—I thought from weakness. I strove to recall what had happened, what had overtaken me to cause this powerlessness, this want of knowledge of my situation.

I lay still, exercising my memory for many minutes. Slowly I began to remember. I had gone out to buy food, how long since, though, it was impossible to say, hours—it might have been days—I could not tell. I had returned feeling weak and giddy. "Then I must have fainted," I thought, "but I would get up now, light the lamp and work." I tried to move: as I did so sharp pains shot through me, causing me to cry out suddenly. What could this mean? Had I injured myself? I had no recollection of doing so. Once more I strove to rise, exerting all my strength, and, Oh, Heaven! I knew I was bound hand and foot with sharp cords which held me like a vice! Who could have done this, and why?

In a moment the answer to this last mental question flashed through my brain. The gold! My gold was in danger! Robbers had discovered it—were perhaps at the present moment stealing it! "My gold, my gold!" I gasped, struggling with bonds. "They shall not take it; it is mine, honestly come by!"

I writhed and twisted, the cords cutting into my flesh like knives, yet I set my teeth and endured the pain in silence, while I strove with all my strength to free myself, for my agony of mind was greater than my bodily suffering.

In vain I labored. I was powerless; the cord was wound around my body so tightly, knotted so securely, that I could barely do more than stiffen the muscles of my limbs. My arms and hands were tied to my sides; I lay at full length on my back among the sickening putrefaction that filled the room.

Numb, panting, and exhausted I lay there, a prey to anxiety, nay, torture, so keen that my ordinary powers of mind became annihilated, and I lapsed into semi-unconsciousness once more. Hours seemed to pass, the silence and the piercing cold adding to my suffering, for my neglected furnace fires must have ceased to burn.

And yet no help came. Had I been left to die as I was by the wretches who had secured me? Was I to starve and freeze to death before assistance arrived? I screamed for aid, I prayed aloud for succor, I wearied Heaven with my prayers, I offered my gold, all of it, for freedom and for life. But I appealed to empty space; no answering voice responded to my cries, no helping hand relieved the torture of my bonds.

Weakness at length made me desist from my struggles. I lay still listening for the faintest sound, but the beating of my own heart was all I heard.

My eyes closed with excessive fatigue, and I was on the point of sleep, when a slight noise as of a distant closing door attracted my notice and brought back hope once more. I listened eagerly as I recognized the sound of footsteps. They came nearer, grew more defined as they approached the room in which I lay; then there was a crushing of shells, followed by low curses, as someone stumbled over the heaps of snails and other obstacles in his path; then silence once more.

A cold shiver shook me from head to foot. Was I not to be released after all? Had my savior departed, not knowing I was within a captive?

"Help, help, help!" I shrieked. "I am in here, bound hand and foot; help, release me, I am dying, dying; for the love of God, help!" A hand touched me lightly; my heart leaped up within my breast; I stared into the darkness trying to discover my deliverer.

With a yearning desire to look upon him, I gazed toward the spot where I judged he stood—this friend, this good Samaritan, who, in a few moments, would set me free. I longed to touch his hand, give him my grateful thanks, bless him for his timely assistance.

"How good is God," I thought, "who in the hour of need provides a means of safety, heals the anguish of despair, averts disaster, gives back life and hope to those who need it most!" Truly I was deeply grateful; humbly I recognized the quality of mere which was accorded me now. This stranger should not go unrewarded; the gold kind nature had given me should benefit him!

"Kind friend, release me," I murmured, "my bonds are very painful; I have been long in this predicament, and I would thank you, reward you, for your timely help."

He did not answer, but I felt his arms tenderly encircle me. I was lifted from the ground and borne from the room. He was taking me to the outer air, where he would liberate me! Slowly he moved along, feeling his way, for it was still dark. He turned a corner, pushed open a door, and my eyes were suddenly blinded by the light of a lamp which burned within the room.

Quickly laying me down he moved aside, then as my eyes became accustomed to the light I looked up and saw him—saw a face upon which there was no sign of help, no trace of pity; a face on which there was instead an expression of exultation, a look of cruelty, the face of Van Earp, the gold seeker!

In that look I read my fate, knew I had nothing to hope for from him. Mercy? he knew it not! I shuddered and fell to wondering what fresh tortures he had in store for me. Presently he spoke:

"So, you thought to rob me, Mynheer Stöl, thought to steal my secret of the Golden Snail and use it only for yourself?"

He hissed rather than spoke. The pent-up passion of his words, his covetous glances at the gold around him, transforming him into a very fiend.

I answered nothing.

"But you reckoned without me, my friend," he continued, his tone changing to one of irony, "you forgot me, who put you into the way of acquiring all this wealth. But I remembered you, yes, I was the more thoughtful, you were only selfish—well, I forgive you, you seemed to have worked hard for me."

He laughed a devilish laugh.

"You will not take all the gold?" I asked beseechingly.

"Why not, Mynheer Stöl," he replied; "you have made it out of my secret; besides, you will not need it now," he added, with a mocking smile.

What did he mean? My heart grew cold under his cruel glance.

"What do you want? What have I done to anger you, Van Earp?" I asked tremulously. "Surely you do not bear me ill-will because by your advice I went to Nelo. We are countrymen, have been good friends always. Ah! you are playing with me! you do not mean to be cruel! you will not take my gold—all of it? It is a joke, a merry jest!" I laughed in my turn, but hysterically, trying hard to believe he meant me no harm.

"See," I continued, "look around you; there is gold everywhere—in all the rooms—a vast quantity—more than enough! Take half, three-fourths, but set me free!"

I waited for his answer, my whole soul in my eyes—and he remained silent.

"God!" I panted, "you will not let me die?"

"Curse you, yes!" he cried, bending over me threateningly. "What is your life to me? What thought had you for me when, more than a year ago, you cringed and won from me by stealth the knowledge that gave you all these ingots? It is mine, I tell you, mine! Mine by right of discovery! Mine by every just claim! You are not entitled to any of it; you stole my secret, used my talisman, and would reward yourself with my treasure? I might have starved the while, what did you care? I was young, and wishful of gold, you were old and did not need it, yet you robbed me. Thief! Spy! You thought to escape me, but I have found you out at last, and will take my own. My talisman brought you the gold, but by virtue of it I have discovered you; for days I have watched you, could have strangled the life out of you—thank me for sparing you—till now!"

He lifted his foot, dashed his heel down on my upturned face once—twice.

I heard him walk to the door, see him I could not, for the blood which flowed from the wounds he had inflicted. Presently he returned with two others. Without a word they began to gather together the gold and carry it away.

They worked so for hours. Soon the room in which I lay was cleared, and then I heard them toiling, as they removed the treasure from other parts of the building. Death stared me in the face, I heeded not their depredations, waited only for the knife which should dispatch me and end my misery.

The noise they made in their work at last ceased, I heard the door close once more, and all again became silent as the grave.

"They have forgotten me," I whispered. "Oh, to be free now, to escape, to find another spot secure from pursuit, out of Van Earp's reach; with a handful of my snails, in a few weeks more I shall be rich again!"

Once more I made an effort to burst my bonds. I might as well by sheer force of muscular strength have tried to snap fetters of steel!

"The wretches have left me to starve!" I cried. "Oh, miserable creature that I am, I shall slowly waste to death, and the snails will feed on my flesh! Oh, horrible! horrible!"

Minutes passed, the lamp began to burn low, deeper grew the gloom, the air was heavy and stagnant, I breathed with difficulty, a mist settled over my eyes, I felt choking. Some change, I knew not what, had taken place, but I felt it; it rendered me drowsy while it irritated my respiratory organs. As I breathed each moment more painfully there came to my nostrils the hot breath of fire! A suffocating odor pervaded the room, each moment it became more unbearable! I panted! I gasped for breath! There could be no doubt of Van Earp's design. Oh! most unrelenting! Oh! most demoniac of men! I was to burn alive!

The smoke curled and wreathed into the room; I heard the flames crackling without as the old house ignited. The heat rapidly increased. Tongues of flames leaped and wrapped themselves around the door frame; the walls, the floor grew hot; a crimson glow diffused itself over everything. My eyes seemed bursting from their sockets; through the closed lids I could see the fierce light.

To be burned alive! Oh, any horror but this! The awful thought drove me desperate. With one long, convulsion of my muscles I strained—pressed at the cords. As I struggled, the dull roar of the flames grew louder, nearer. But one hand was nearly free, I could feel my flesh blistering with the terrible heat. One more effort and I was tearing at the cords. Oh, what an age it seemed before I could extricate each limb from their many folds! With one superhuman effort I tore the last strands asunder, struggled to my feet, and dashed headlong through the flames. At a distance of a few feet only my hands encountered the solid wall; without a thought I turned, and urged by despair, precipitated myself in the opposite direction. Onward I rushed, reckless of what might be in my way so long only as I escaped this hell which was burning into my very soul!

With the instincts of the blind, I felt I was approaching some obstacle! I gathered myself together for a last effort. I sprang against it, there was a crash of glass, I felt the cool air, through which I seemed dropping, dropping—then an awful shock.

There is little more to relate. The fiercest passage of my life ended with the destruction of the object I had so frantically worshipped—in the ashes of a fallen idol!

I was told by the nurses at the hospital to which I was carried that I lingered between life and death for many weeks. Not until the return of Summer was I able to leave my bed, then, my face mutilated by Van Earp's cruel heel, I wandered forth a cripple and a beggar!

Merciful people have sent me back to my native village, where, thanks to their charity, I now pass my few remaining days waiting for release from the memory of those terrible months of mad joy and horrible despair which have robbed me of all happiness on earth.

Need I speak of Nelo? But a few words. The accursed spot, as if abhorred of God as it would have been of man—had man known it as well as I—has disappeared, swallowed up in the great convulsion which lately destroyed whole islands far larger than itself. Unhappy spot! where once life teemed in all its magnificent variety, now only the ocean rolls and the seabird soars. These are the only signs of life. It is better so.

I hear of Van Earp sometimes. He also has returned to Holland. People call him great and good, a leader among men, rich, talented, charitable—but I do not hear that he bears at his watchchain the symbol of his success and my degradation—THE GOLDEN SNAIL!—*Gentleman's Magazine*.



WARD McALLISTER ON FARMING.

He Tells His Experience and Discusses Abandoned Farms.

My profit in farming is in my early lambs, selling them at \$12 each during March and April to a fashionable butcher, writes Ward McAllister, the New York dandy, relative to his Newport farm; also in sale of young chicken turkeys at \$2.50 each, and in the sale of poultry, milk, and cream, pigs and squabs.

One-half of the yearly income I receive. The farmer receives the other half, first deducting the running expenses of the place. My late farmer told me that when he came to me he was literally worth nothing. He had during eight years been able to marry, support a wife and three children, and closed with \$2,500 in bank, and three good horses, all made by his thrift and economy on my place. For Spring and Summer work he hired Italian labor at a very low figure, getting it from Castle Garden and paying, say, \$12 or \$15 a month with board for an able-bodied man.

When you look at these figures, and see what I have done without any special effort, it becomes a matter of surprise that so many fine New England farms should be abandoned, and others only held for want of purchasers. To my mind the solution is the loneliness of farm life. The young and enterprising men prefer to crowd into the larger cities; but it must be borne in mind that there is no such solitude on a Newport farm, for the whole island is so thickly settled, and as all these farms are dairy farms, furnishing Newport with milk and cream, it necessitates a daily trip to town.

The Sublimest Poem of Antiquity.

The sublimest poem of antiquity is impersonal, yet written in the Hebrew tongue. The book of Job, the life-drama of the Man of Uz, towers with no peak near it; its authorship lost, but its fable associated in mind with the post-Noachian age, the time when God discoursed with men and the stars hung low in the empyrean. It is both epic and dramatic, yet embodies the whole wisdom of the patriarchal race. Who composed it? Who carved the Sphinx, or set the angles of the Pyramids? The shadow of his name was taken, lest he should fall by pride, like Eblis. The narrative prelude to Job has the direct epic simplicity—a Cyclopean porch to the temple, but within are Heaven, the Angels, the plumed Lord of Evil, before the throne of a judicial God. The personage of the dialog beyond are firmly distinguished: Eliphaz, Bildad, Zophar, Elihu—to whom the inspiration of the Almighty gave understanding—and the smitten protagonist himself, majestic in ashes and desolation. Each outvies the other in grandeur of language, imagination, worship. Can there be aught above these lofty utterances? Yes; only in this poem has God answered out of the whirlwind, his voice made audible, as if an added range of hearing for a space enabled us to comprehend the reverberations of a superhuman tone. I speak not now of the motive, the inspiration of the symphonic masterpiece; it is still a mortal creation, though maintaining an impersonality so absolute as to confirm our sense of mystery and awe.—*Edmund Clarence Stedman, in the May Century.*

Inquisitive Neighbor—I hear that your sister is engaged. Is that true?
Small Boy—Guess. She generally is.—*Street & Smith's Good News.*

THE AMERICAN FARMER.

"O fortunatus nimium sua ei bona norit agricola."—VIRG.

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THE AMERICAN FARMER is sanguine as to the future of American agriculture. It does not take a particle of stock in the doleful jeremiads which many newspapers and orators delight in singing about the "depression in agriculture," the "gloomy outlook for the farmer," etc. It does not believe for an instant that all the bright, progressive men are being lured from the farm by the prospect of less laborious and more gainful pursuits in the city. It refuses utterly to accept the assertion that farming is less lucrative than other business, or that a man of ability and energy buries his talents in devoting himself to agriculture, since he would succeed much better in some other calling.

We hold just the reverse of all these propositions. We believe that, as a whole, farming pays as well, if not better, than any other business; that the man of ordinary ability succeeds fully as well in it as he would in anything, and the phenomenal money-makers accumulate just as large fortunes in it as they would in merchandizing or manufacturing.

So far from progressive, enterprising men leaving the farm, they are rather going back to it. An entirely new era has developed, and will continue to develop. The old one, in which results were accomplished by "main strength and stupidity," is passing away. Hard work is not now the main thing in farming, but intelligence and practical education. The highly successful farmer needs just as much education as the highly successful lawyer, physician, minister, merchant, or manufacturer. He must be just as severely and thoroughly trained in all the details of his grand profession. He must know the theory and practice of every feature of his business, and be able to make a true estimate of its value. There is no calling

followed by men which requires more exact knowledge than farming, and a recognition of this fact by the world, as well as by the farmers themselves, helps to retain learning men on the farm. When it is felt that the successful farmer is in mind and education the intellectual peer of the successful, professional man, merchant or manufacturer, we will keep on the farm the young men who are ambitious of social distinction, which they have heretofore been prone to feel could only be gained by entering one of the "learned professions." The weight of learning is not now with those who acquire a knowledge of law, medicine or theology, but with those who master in a fair degree the liberal science of husbandry.

We have said that on the whole farming is more lucrative than any other business, and we stand by that assertion, despite all that can be said about bad years, short crops, low prices, drouths, grasshoppers, mildew, frosts, etc. People who suffer from these forget that every other calling which men follow has an equal number of chances of disaster. The manufacturer has a constant, unrelenting struggle with changing fashions and methods, improvements by competitors to cheapen production, or raise quality. He is liable any day to have some new discovery, or some change of fashions or methods, render his whole manufacturing plant next to worthless. He may make high profits for a term of years, and the next have some unexpected development sweep away his entire income. Even manufacturers of staple articles must fight constantly to keep up with the times. We see this in the milling business, which is as near a staple industry as can be mentioned. Yet the man who runs his mill as he did 25 years ago, or even 10 years ago, has hard work meeting competition and making both ends meet. The money in milling, as in farming, is made by the live, wide-awake men, who keep abreast of the times, both in their own knowledge and the introduction of new machinery and methods.

We hear constantly of the men who have made great successes in merchandizing or manufacturing, and but little, if anything, of those who fail or barely escape failure. There is no doubt that a much larger percentage of merchants, manufacturers, and professional men fail utterly, or achieve a success so limited as to be next door to failure, than among farmers.

We assert that the same amount of ability and energy devoted to merchandizing or manufacturing will more certainly succeed if applied to farming, and that the financial rewards will be greater.

The future of American farming is

very bright. The best minds and the best science of the country are now being directed to determining just what our wonderfully diversified soil and climate are capable of, and just what are the best methods of developing production to the utmost. There is rapid progress in all the sciences, but in none more rapid than in the science of agriculture. Every day we are learning more and more what we can get out of the soil, and the animals fed upon it, and how to do this with the least labor, the least danger of loss, and the greatest amount of profit.

The returns from the best-managed farms are fully equal to those of the successful factories with the same investment.

To-day the American farmers are the most intelligent and best educated in the world, and they are rapidly becoming more so. They are learning and practicing every valuable idea which those of the Old World have developed in centuries of experience, and they add to these a multitude of their own. They are not slaves of routine, of political degradation, or social customs, but are free, independent, thinking, learning men, who hold their calling to be as high as any that men follow, and worthy of the best intellect and education that can be devoted to it. The effect of this in developing the science of agriculture is marvelous. Public appreciation is a powerful stimulus in the progress of any art, when men feel, as they are now doing in this country, that there is just as much reputation to be made by trebling or quadrupling the production of the soil, or improving a breed of animals, as in conducting a great lawsuit, inventing a labor-saving machine, or getting elected to Congress. The more thoroughly this is understood the greater will be the progress in agriculture, and the more prosperous will be the farmers and the entire country.

THE PURE FOOD BILL.

The Paddock Pure Food Bill is now far down on the calendar of the House of Representatives, without any special privileges. It can only come up under a request from the Committee on Agriculture for a suspension of the rules for its consideration and passage. Representative Hatch says that this privilege will be asked and granted at an early day, but he cannot say just when.

In the meanwhile a fierce opposition has developed to the bill. A great many Southerners are opposed to it because they fear that it will injuriously affect the price of cottonseed oil, and thus diminish the already too small returns to the cotton planters. We do not think this apprehension at all well founded. Cottonseed oil is good enough

to stand its own ground in public estimation without any assistance from lard or other fats. Its food-value is generally conceded, and also that there is nothing more healthful and palatable. Nowhere is there the slightest prejudice against it, but everywhere it is looked upon with favor. Its friends are making a great mistake in not pushing it more earnestly upon the public knowledge, without admixture with anything else. It should be placed on the market in neat bottles properly labeled as a substitute for the adulterated sweet oil we import in such quantities from France, Spain, and Italy. This is largely cottonseed oil, for which our people are made to pay fancy prices. If the Pure Food Bill is passed the importation of the bogus sweet oil could be stopped, and the product of cottonseed take its place, to the great profit of the enterprising men who will present it to the public in as tasteful shape as the foreigners now present their so-called olive oil. Cottonseed oil has a much brighter future before it if offered and sold on its own merits than if tried to be slipped in under the disguise of "compound lard," and similar preparations.

But the worst opposition to the Pure Food Bill comes from a still more selfish source. The patent medicine men are terribly alarmed lest it compel a disclosure of their formulas. This is all nonsense, as the bill expressly provides that there shall be no disclosures of formulas, nor the results of any analyses, until after the maker or vendor shall be duly convicted in court of selling something distinctly prejudicial to public health. Furthermore, anyone who wants to know the composition of any patent medicine, can do so at small expense. For \$5 or \$10 an analytical chemist—to be found in any city—will furnish him the exact composition of any patent medicine in the market. Indeed, analyses have been made of most of the popular patent medicines, and these have been published in pharmaceutical journals and books.

But the patent medicine people control a vast advertising patronage, and so have a powerful influence with the press. The advertising agents who handle this patronage have passed the word to all the papers to jump on the Pure Food Bill with all their might, and many of them are doing so with great viciousness—their pens being sharpened by the patent medicine men withholding their advertising until the fate of the bill is decided.

All the same, the bill should pass, and will if the House Committee on Agriculture does its duty.

Ask all your neighbors to subscribe for THE AMERICAN FARMER.

THE MAPLE SUGAR INDUSTRY.

The maple sirup people of northwest Ohio don't care anything about the bounty on sugar, but what they would like to have is a stiff National law, punishing severely anyone who imitates or adulterates maple sugar or sirup. If this vicious practice could be prevented they could get their own prices for their delicious products. If people were only certain that what they are buying is genuine, unadulterated maple sirup or sugar, they would rather pay two or three times the present prices. Much has been done in this way by the State laws requiring inspection and labeling, but the laws against adulteration should be made more general. If the Paddock Pure Food Bill should pass the House—as it probably will—it will secure this desired end.

The following sections of the bill will directly apply to any adulteration of maple sugar and sirup:

First. If any substance or substances has or have been mixed and packed with it so as to reduce or lower or injuriously affect its quality or strength, so that such product when offered for sale shall be calculated and shall tend to deceive the purchaser.

Second. If any inferior substance or substances has or have been substituted wholly or in part for the article, so that the product, when sold, shall tend to deceive the purchaser.

Third. If any valuable constituent of the article has been wholly or in part abstracted, so that the product, when sold, shall tend to deceive the purchaser.

The second section of the bill reads as follows:

That the introduction into any State or Territory or the District of Columbia from any State or Territory or the District of Columbia or foreign country of any article of food or drugs which is adulterated or misbranded within the meaning of this act is hereby prohibited, and any person who shall knowingly ship or deliver for shipment from any State or Territory or the District of Columbia or foreign country to any other State or Territory or the District of Columbia or to a foreign country, or who shall knowingly receive in any State or Territory or the District of Columbia from any other State or Territory or the District of Columbia or foreign country, or who, having so received, shall knowingly deliver, for pay or otherwise, or offer to deliver to any other person, in original unbroken packages, any such article so adulterated or misbranded within the meaning of this act, shall be guilty of a misdemeanor, and for each offense be fined not exceeding \$300 for the first offense, and for each subsequent offense not exceeding \$300, or be imprisoned not exceeding one year, or both, in the discretion of the court.

It may be very well for thrifty towns to induce manufactories to start up by offering them freedom from all taxation for a period of years, but why is it not also good to offer something like the same inducement to progressive farmers to take rundown and wornout lands and in a few years produce four and fivefold what they did in their palmiest days? This is something worth thinking of. Many centuries ago it was decided that the truest benefactor of humanity was the "man who makes two blades of grass grow where but one grew before." This means the progressive farmer more distinctly than any other man.

FARMERS' SOCIETIES.

THE AMERICAN FARMER is earnestly in favor of all manner of farmers' societies, no matter what their name or for what purpose they claim to be organized. We have that belief in the patriotism and public spirit of the farmers as to be sure that an organization which any number of them may enter into must be for their benefit and that of the country. There may be a good deal of nonsense talked and wild theories broached, but the ultimate result will be good. Any movement which tends to bring farmers together, where they will discuss matters of common interest, will promote their knowledge, give them good and profitable ideas, and help raise the standard of intelligence and skill. Every farmer who hopes to make even a moderate success of his business must constantly learn new ideas, and there is no better place for him to learn these than in meetings where other farmers talk over matters pertaining to and affecting their calling.

Then talking leads to co-operation, and it is difficult to have too much co-operation among farmers. They should co-operate in placing their products upon the market, in shutting out low-grade and pernicious stuff, in getting knowledge of how to sell to best advantage, in protecting themselves against speculators, "combiners," and "pools." They should co-operate in purchasing farm machinery, thoroughbred stock, and supplies; in establishing creameries, cheese-factories, sugar-factories, and similar institutions. In fact, there is no limit to the ways in which they can co-operate to their own advantage. All other interests and branches of business are combining and co-operating, and the farmers must do the same.

Be a little slow about running after loudly-trumpeted new varieties and breeds. Wonderful things can be done with the old standards if they are only given the care and attention lavished on the much-praised novelties. Then, too, is not half so liable to make serious mistakes with animals, fruits, and vegetables with whose characteristics and peculiarities he is fully acquainted.

The day of successful sneering at "book-farming" is past. The farmer who succeeds now-a-days must read—read a great deal—digest what he reads, and intelligently apply it. In no science is there more progress to-day than in agriculture. The farmer who makes money is the one who keeps up with the times.

Get up a Club for THE AMERICAN FARMER.

WATCH HOW THEY VOTED.

In the recent vote on the Springer free wool bill, sheepmen would do wisely and fairly by their interests to inform themselves and remember how their Representatives voted. It may be well to vote somebody a place in private life again. It is true that there is a pressure in Congressional life that makes a Congressman do what he did not expect to do before he came to Washington; but he cannot go back on the interests of his constituency and explain it all away so easily. Hold them personally responsible for all they do.

THE Maine Grangers are taking a long step in the right direction by urging the introduction of studies on the principles of agriculture into the common schools. In our highly-developed civilization it is necessary for a man who hopes for the highest success in his calling to begin to study as early in life as possible. This is particularly true of agriculture, where there is more to learn than in any other calling which men follow. The longest life is all too short to acquire all the knowledge which a genuine farmer should have. At the earliest possible moment a child begins to be taught to observe what is going on in the wonder-shop in which Nature operates, and to understand, as far as can be understood, the processes by which she accomplishes results.

THE AMERICAN FARMER is only \$1 a year.

A NEW form of fraud on the woolen duties has been discovered by the Treasury officials. The Botany Worsted Mills, of Passaic, N. J., has been receiving large invoices of undyed and unfinished cassimeres—technically known as "in the gray"—from Germany. In all there were 400,000 yards. As there had never been such importations before, the appraisers accepted the statements of value furnished by the importers, and assessed a duty of 12 cents a yard and 50 per cent. *ad valorem*. Subsequently, the appraisers received information that the goods had been boiled before shipping, which shrunk them about 15 per cent. A piece of the goods was sent to a woolen mill to be finished, and in the process its width expanded from 38 to 45 inches. The appraisers thereupon ordered the importers to pay \$10,000 more duty, and a fine of \$30,000. The latter have given no notice of appeal.

THE worst vermin in the country are the dogs, which yearly do the people more damage than all the wolves, wildcats, weasels, foxes, bears, minks, woodchucks, and akunks in the woods. Let's have a premium for dog scalps.

THE practical application of the work of the Weather Bureau of the Department of Agriculture by farmers themselves is becoming more and more apparent. Just after one of the cold waves which passed over the South not long ago, the following telegraphic dispatch appeared in a Memphis (Tenn.) paper, telling of the frost in Mississippi: "No damage resulted to tomato plants, as growers were warned by cannon firing on receipt of Weather Bureau report. Prospects are still good for over 2,000 acres in at this point." Being warned a full day ahead of the coming freeze the "truckers" had time to protect their crops.

COMPLIMENTS.

"Well Pleased With It."

I have received the paper, and am well pleased with it. I think THE AMERICAN FARMER under its new management a splendid paper.—JOHN D. A. FISHER, Woodside, N. C.

"Meets a Long-Needed Want."

We must say that your paper meets a want long needed by the agricultural population of our country. Please accept our thanks.—POWELL BROS., Shadeland, Pa.

A SPECIAL OFFER.

The American Farmer for the Rest of 1892 for 50 Cents.

In order to extend the circulation of THE AMERICAN FARMER and give a great number of people a chance to become acquainted with its many good points, we will make a special offer: *We will send the paper from now until Dec. 15, 1892, for 50 cents.* This is a splendid opportunity to get a vast amount of the very best reading matter for a very small sum. Do not fail to embrace it.

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SAMPLE COPIES.

We shall be glad to send sample copies of THE AMERICAN FARMER to any address that may be furnished. Those who wish to see the paper, or who want their friends to see it, will confer a favor on us by sending in requests for specimen copies, to be sent to any address they furnish.

Address all communications to

THE AMERICAN FARMER,
1729 New York Avenue,
Washington, D. C.

RAISE CLUBS.

We want every one to try to raise clubs for THE AMERICAN FARMER. It is a splendid journal, and will find favor in the eyes of all who see it. It ought to be very easy work to get subscribers. We will make good inducements for sons and daughters of farmers to get up clubs. Write for terms to club-raisers, and premium lists.



If Mother Would Listen.

If mother would listen to me, dears,
She would freshen that faded gown;
She would sometimes take an hour's rest,
And sometimes a trip to town.
And it shouldn't be all for the children,
The fun, and the cheer, and the play;
With the patient droop of the tired mouth,
And the "Mother has had her day!"

True, mother has had her day, dears,
When you were her babies three,
And she stepped about the farm and the house
As busy as ever a bee.
When she rocked you all to sleep, dears,
And sent you all to school,
And wore herself out, and did without,
And lived by the Golden Rule.

And so your turn has come, dears;
Her hair is growing white,
And her eyes are gaining the far-away look
That peers beyond the night.
One of these days in the morning,
Mother will not be here,
She will fade away into silence—
The mother so true and dear.

Then, what will you do in the daylight,
And what in the gloaming dim?
And father, tired and lonesome then,
Pray, what will you do for him?
If you want to keep your mother,
You must make her rest to-day;
Must give her a share in the frolic,
And draw her into the play.

And, if mother would listen to me, dears,
She'd buy her a gown of silk,
With buttons of royal velvet,
And ruffles as white as milk.
And she'd let you do the trotting,
While she sat still in her chair;
That mother should have it hard all through,
It strikes me isn't fair.

—Margaret E. Sangster.

The Editor's Fireside.

PARENTS are very apt to feel that their children are superior to all others, and that they may safely repose in them all confidence, resting in their love always. This may be true to an extent, but they should remember that the strongest are liable sometimes to yield to a temptation in the direction of their own comfort, or what they imagine their own welfare.

Perhaps you are wondering to what this is the prelude. It is this—that no matter how good, how affectionate, how tender, or how generous children seem to be, never, as you value your own happiness and their future peace, put all of your property into their hands, trusting to them to give you whatever you need for your subsistence. There is no use in yielding to the thought that you are weary of care, and that you will be only too glad to be relieved of any thought of your possessions. Do not imagine that putting everything out of your hands, leaving you free, will give you any permanent pleasure. On the contrary, it makes of you a dependent. No matter how thoughtful the children may seem to be, or how determined they express themselves that your old age shall be made comfortable, there will be likely to come times when you will be felt a burden, unless you are peculiarly free from obligation to anyone. It may be that no outward expression of this thought will come, but you will inevitably feel it more and more as the years go by and the frailties of old age multiply.

The story is an oftold one of hard work in the earlier years of married life—of labor by day and watching by night, that the family may be cared for. Then when the sunshine of success, by means of this expenditure of energy and hard labor, comes, when possessions multiply and the new house is built, with new carpets covering the floor, and the new furniture, all of which have been paid for by the hardest toil, there will be a time when to cease work and to rest will seem to be the best that could be given to you. The boys and girls are grown into practical men and women; perhaps they are married, with families of their own. At any rate, they are always good and kind, and you can trust them to be so under all circumstances.

Right here is the time of temptation. Right here comes the thought that, to

the stalwart men and women, the care of what you have collected will seem little; they will have it all by and by; why not give it to them now? Stop right there. Do not allow yourselves to place into others' hands what is yours, earned by years and years of effort. Hold it under your own control. Keep possession of the homestead, and of everything which is necessary to maintain it, as you have always done, and of anything else that has added to your prosperity. Be sure that the respect of your children will be increased by the fact that these things are yours, in your own hands, and at your own disposal.

It is a sorry thing for people to allow themselves to be laid upon the shelf; it is one of the most mournful of things to see parents still in possession of their faculties dependent for everything they eat, drink, or wear upon the largess of others. For this is what it amounts to when you have once given away what is yours of right.

I read a story the other day of a woman who was left by her husband with a competence sufficient to rear her family. By the will the property was hers to do with as she pleased. When her children were educated and had chosen their vocations, they began to plead with her to give into their hands what would be theirs when she passed out of the body. In a moment of weakness she yielded, with the result that to-day she is without a home and dependent upon her own exertions for a living. She went forth from the homes of the son and daughter because she was made to feel in them both that she was a burden, the means she had given them having been frittered away or lost in poor business operations.

This is not exceptional. Who of you cannot think of some grandfather or grandmother pushed away into a corner, and that not the most pleasant one in the house, because they have nothing with which to pay the expense of their living? Did they possess enough to keep them in ever so simple a manner nothing of that kind would happen; at least if there were a wish that death would come, it would be decently covered up, since a disposal of what they have would lie within their own control.

Now, I repeat it, hold your own to the very last. Suppose you are getting old, with silvered hair, with feeble step, with eye and ear dulled to what once was plain to you, it matters not. Keep your place. Let your children make their way as you made yours. It will be time enough for them to have what is yours when you are finally through with it all.

* * *

I READ the other day with great amusement and strong, fellow feeling for the writer, an article about the misery of that kind of forgetfulness or absent-mindedness that prevents certain people from being able to address those whom they meet by their right names, and placing them at once amid the circumstances and surroundings in which they belong. The writer said, and truly, that grace, fortune, and even genius or all combined are not equal in social potency to this gift. And it is absolutely true. It is the secret of the power of many persons in public life. It is said that Mr. Blaine never forgets anyone he has seen and conversed with, or even taken by the hand, and that this gift has stood him in good stead many times in public places where his success depended upon just such little things as the swift recognition of a personal identity. Mrs. Logan is also spoken of as possessing the same ability, and through that came her power in giving Gen. Logan assistance in his public life.

No one likes to be forgotten; no one feels pleasantly to be looked at in a half-questioning sort of way by persons whom one feels should have retained him in memory; but it is not half the misery for the one forgotten that it is for the one who forgets. The absolute horror that seizes hold of you when you see someone coming whom you know full well you should call by name and be able to ask after those who belong to him, and yet fail utterly to call to your mind the right name, is something beyond description. I have been round a whole square to save myself from such a mortification, and have examined with the utmost care and interest things that were of no earthly attraction to me in order not to be looking in the direction of the nameless, to me, individual approaching.

Another most mortifying thing which comes from this lack of memory, or gift of recognition, is not only the fact of being unable to recall the name that belongs to the face, but also the impossibility under such circumstances of saying the right thing to the right person. Sometimes accidents which are really very ludicrous will occur, although they are far from being amusing to you. I remember being introduced not long ago to a lady whose husband was in the last stages of some disease which afterward proved fatal. Unfortunately, I did not hear of that for sometime after his death occurred, and then not knowing him, the fact had passed out of my mind. When I saw her it was not recalled with certainty. I knew that I was expected to ask her of her family, and I cast frantically around to see if I could not gain some clue as to what I should say. It was all in vain, and I ended by conversing entirely upon impersonal subjects. I have no doubt but that to this moment she believes me to be a hard-hearted wretch, who would not even take the trouble to say a single kind or sympathetic word to her in her sorrow. Naturally, she would not feel any better did she know that I had forgotten; but the fact cost me a far greater amount of suffering than the neglect cost her irritation or mortification.

The question is what is one to do under such circumstances, whether it is

worth while to make one's self utterly unhappy because this gift has been denied them, or go serenely on putting anxiety aside, and simply doing the best that it is possible, and then bearing the burden of blame or of anger from those who esteem themselves affronted. Of course much might be done to cure one's self of the habit by not allowing the mind to wander when one is in public places and being introduced to strangers. Yet I think a little more consideration from people who esteem themselves treated rudely because someone has failed to recognize them would be a good thing. Why not ask the question under such circumstances whether there is any reason for the slight being offered, and if there be none, never admit the possibility that one was intended. I do not feel quite so despairing in the matter as the writer of the article before mentioned. She closes with the following: "Volumes could be written of these signal trials of life. The inability to recognize people is sorrow's crown of sorrow. Earth has one sorrow that heaven cannot or at least does not heal. Anything else could be borne. Poverty induces fortitude and courage; illness brings resignation; loss of friends may teach lessons of greater patience or courtesy or love; death has its consolations; but for the perpetual torture of daily life in perpetual non-recognition of friends or foes alike, or of the terrible blunder of recognizing the entire stranger and cutting the friend, for this terrestrial trial there is neither hope, nor help, nor comfort, but only the blankness of absolute despair."

TO MAKE AQUATIC GARDENS.

Everybody Can Have One by Taking Some Trouble.

An aquatic garden which is well taken care of and flourishing is "a thing of beauty and a joy forever." People usually consider the expense of such a garden to be so great that it cannot be possessed unless its owner is a millionaire; but this is not the case. One can be made for a comparatively small sum of money, even when it must be entirely artificial, with a cement bottom. When, however, anyone is fortunate enough to possess upon his premises a natural pond with shallow water and a good rich mud bottom, the matter is a very easy one; or if a small brook runs through the grounds, that may be utilized for an artificial pond.

The most important, or one of the most important points in the cultivation of aquatic ponds is to have the water still and warm; therefore the site must be where it will get the benefit of the sun for six or seven hours a day, and it must also be protected from cold winds. It must be kept full of water, and no more allowed to run in either from pipes or from the running brook.

To begin with, excavate the earth to the depth of nearly three feet, if it is to be a small pond, that is, less than 20 feet in diameter; make the form regular, but an irregular outline is better where the pond is larger. The bottom should be made deeper at the center, and gradually slope to the edge, and must be firm and smooth. The soil for the plants to grow in must be composed of equal parts of good loam or decayed turf, and freshly-decayed manure of any kind that can be obtained. Mix this thoroughly and cover the cement bottom eight to 12 inches deep, pressing it down tightly. Then cover this with two inches of clean sand or fine gravel, to keep the soil from mixing with the water. Let this come close up to the edge, and the grass of the lawn can be allowed to grow up to meet it. It will be necessary to have a pipe pass from the bottom of the pond to some lower part of the grounds in order to draw off some of the water when necessary, and there must also be an overflow pipe to take off the surplus water during heavy rains. Nearly all kinds of water plants can be grown very easily in such a pond, and when in blossom they present a very beautiful appearance during the heated months of Summer. The cost of making such a garden as described above will vary from \$25 or \$30 to \$200 or \$300, according to the size. It makes a charming addition to the grounds of any place.

If there are those who cannot have an aquatic garden, either from a natural or artificial pond, and they are limited for space, the tub method of culture is possible, and may be made very pleasing to the eye. Of course, there are many of the water plants that can only be cultivated where there is plenty of room; but some of the handsomest blossoms of the water-lily family may be reared in a large tank or tub, and be brought to the perfection of shape, color, and fragrance. The tub used should have a depth of at least four feet for the larger varieties of water plants; but there are many of the low-growing sorts that may be very successfully grown in quite small vessels, using even a large movable earthenware or glass jar. Put in a layer of very rich loam at the bottom of the tub, varying the depth according to the size of the vessel and of the plant to be put in. Spread out the roots, covering them with earth, and fill the receptacle with soft water. The plant will immediately begin to grow if the water is warm, as it should be. One of the prettiest plants for this, perhaps, is known as the American water lily. This will blossom abundantly the first year from the root. Put in a few gallons of fresh water occasionally, to make up for evaporation, and the water put in must be as nearly as possible the same temperature as that already in the tub. The plant should be placed where it will be shaded from the rays of the hot noonday sun.

Another plant is the Egyptian lotus, which is of great size and very beautiful. It should be put in rich mud, with at least two feet of water to cover it. It has a large, double pink flower, eight or 10 inches in diameter, and the leaves sometimes measure two feet across. Both these and the water lily must be removed to the cellar late in the Autumn, leaving just enough water in it to keep the mud at the bottom from drying up, and then in the Spring a little fresh, rich soil must be added before the water is put in. Of course, there are other kinds of water plants that may be grown in this way, such as the water hyacinth, which is both curious and beautiful, floating on the water instead of growing in the soil. This it does by reason of inflated leaf-stalks, which look more like little balloons than leaves. It

is very easily cultivated. There is also the water poppy, which grows very easily and will do well in shallow tubs or pans, and parrot's feather, which has long trailing stems, and prefers shallow water, running about upon the surface, besides the more common plants, such as the cat-tail, flag, and wild iris.

FOR BUSY FINGERS.

Some Pretty Things for Making Home Attractive.

*BEDSPREAD.

A pretty bedspread can be made from the raw silk that is sold in Japanese stores. It is one yard wide and can be bought at \$1 a yard. Six yards are enough for a single bed. The goods is sewed together down the middle and the joining covered by embroidery. For a yellow room use yellow raw silk lined with yellow serge. Put a fringe around of four-inch tassels to match the silk in color. For the embroidery make yellow daisies in two shades.

RECEPTACLE FOR THIMBLE, NEEDLES, ETC.

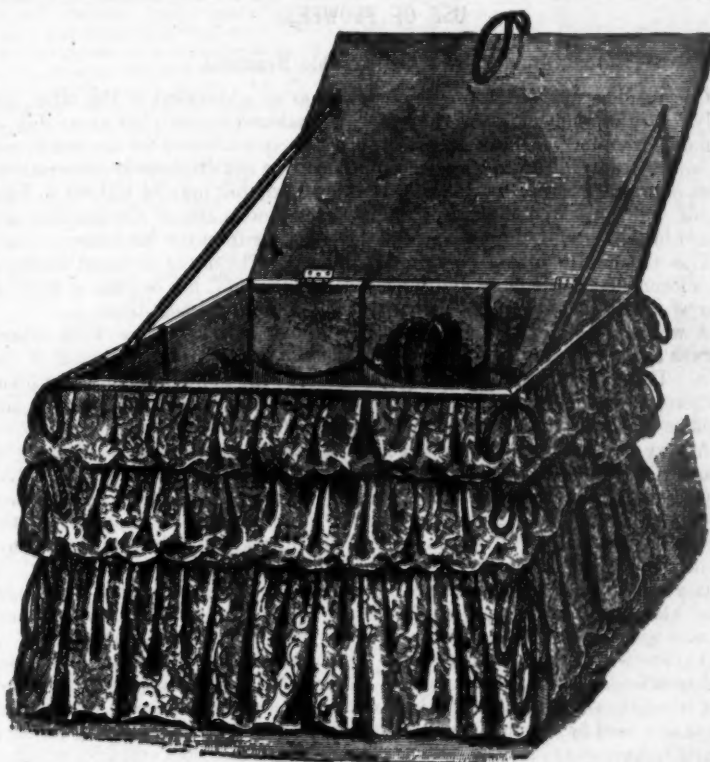
Take a Scotch Tam-O'-Shanter cap and line it with a contrasting color of soft silk. Fasten a full roset of silk on the headband. A cap that has been worn but is not too much soiled can be used.

PIN RECEIVER.

A small square dish of decorated china is needed. Pass around this under the bottom a broad ribbon of moire or satin with fancy edge and tie in a bow on top. Under the bow is laid a row of pins left on the paper. The dish can also be used for other odds and ends of the toilet beside pins.

FANCY SHOE BOX.

Get a wooden box of the size you wish and line the inside neatly with brown linen duck, and frill a strip of the same material and tack to the bottom around the four sides. Bind the upper edge with dark-brown braid. Strips of braid are tacked from top to bottom in the corners, one midway on the ends and twice between the sides, forming 10 pockets for shoes and rubbers. Tapes are also fastened to lid and box to hold the lid up when opened. Frill a valance of good



depth of some pretty cretonne and tack to the upper edge of the box, covering it with a cord. Below this two rows of cord are arranged at equal distances to form two puffs in the valance. The corners are decorated with loops of the cord. Cover the top of the lid with two or three layers of cotton-batting and tack a piece of the cretonne plainly over this, covering the edges with a cord, a loop being placed at the center of the front edge to serve as a handle.

TWO OR THREE THINGS

That May Interest the Household of the Farmer.

I heard the complaint the other day that fashions were always made for tall, slender women; that stout women were never considered, and therefore they had the misery of being obliged either to wear what is not becoming or else to modify the patterns or change them over until they lost all semblance of the original in the effort to make them answer the purpose. Perhaps there is some truth in this.

The ideal of the poet is never stout, although it must be confessed that the true love of the majority of men is quite as likely to be of generous proportions as the contrary. Now there are some things that the stout woman should not wear. She should never have her skirts made with trimming in rows around the width, but rather up and down the length of the skirt. Rosets at the waist should be avoided, unless they are flat and fitted close to the figure. Tailor-made suits are always to be omitted from the wardrobe, as they bring out every ounce of superfluous flesh for the benefit of those who see her. Generally speaking, she should not wear her hair low in the neck, neither should she don high ruff. She should not wear her hair fluffy or rough; in fact, she should avoid everything that will tend to emphasize the stoutness of her figure.

A few hints in regard to the choosing of linen for the home may be useful to the housekeeper. Almost every woman has an especial pride in her table—that it look dainty and attractive. The most important item in its arrangement is the linen with which it is arrayed, and she who has the largest stock of fine tablecloths and napkins is the envy of her less fortunate neighbors. For linens of medium quality to be used every day, what is called the Scotch linens are considered most serviceable and satisfactory, because in the manufacture of this grade of goods the handloom is used, and therefore inferior thread employed is an impossibility. The finer and more expensive damasks are those made in Ireland, manufactured also by handlooms. The Irish linens are more expensive, and may be bought as soft to the touch as silk. Of course all housekeepers understand that table linen by the yard is less expensive than those which come with the border woven all round, and they can be bought either way in both kinds of manufacture. French linens will not generally wear as well as Irish, but are usually more beautiful in design.

Just now there seems to be a fancy for tablecloths with perfectly plain centers. The trouble with these is the great care that must be taken to give the linen the proper gloss and finish. If that is not done the effect is extremely bad, and in fact one might almost as well use cotton. There is also just now a fancy for hem-stitched cloths. This will, however, very likely soon pass away. When it is necessary to replenish the linen it is wise to go to the annual sales at the reduced prices which obtain after the holidays. Often at such times genuine bargains may be obtained.

USE OF FLOWERS.

How They Make a Table Beautiful.

One wonders often why the use of flowers as an adornment of the table, not merely for entertainment when strangers are gathered around, but every day, is not more general. It is really a bright, pleasant spot of color for the eye to rest upon, and will give pleasure often when the family is not disposed to conversation. Almost everyone possesses a tall vase, or a low bowl, that may be utilized to hold blossoms, and it does not matter how common the flowers are, or whether they are gathered in the forest, from the home garden, or come from the hot-house.

This thought, however, is only a passing one. The use of different kinds of floral adornment for the table and luncheons, dinners, etc., has become so much a matter of course that a hostess will hardly venture to do without them.

A writer in *Harper's Bazar* describes a dinner given in New York, where there was a small wreath of pansies tied with violet ribbon for each one of the women. These wreaths were massed in the center of the table in a charming manner, where they remained until dinner was over, when one was handed to each, the gentlemen being given a boutonniere of the same flowers.

A very pretty fancy, and one which gave great pleasure, was the draping of garlands of flowers or of vines from the chandelier to the four corners of the table. It gave a sort of tent-like look, which was very pretty. Violets seem to be always a favorite decoration, and in the early Spring people in the country may use the little wood violets very effectively and without the expense that follows the employment of these flowers in the city.

It is considered in the best taste now to confine flower decoration to a single kind of blossom, and then, where ribbons are used to tie them, let it be of some color that will contrast or harmonize well with the color of the blossoms.

Anyone with good taste and a little ingenuity can easily manage very beautiful decorations with the less expensive flowers. It must always be remembered that it is not the money which anything costs that marks it a success, but it is the taste that is used in selection and arrangement. Nowhere is there room for such a faculty to have play as in the dining-room, and nowhere does vulgarity or ostentation make themselves more offensive.

All-Around News About Women.

Mrs. Sarah B. Cooper, of California, is considered the best organizer of kindergarten work in the world. She is the founder of the free kindergartens of the Golden Gate Association of San Francisco, and recently declined a call, with \$50,000 pledged, to organize a similar work in New York City.

A daughter of Gen. Booth, it is understood, will succeed to the command of the Salvation Army, should she survive her father. She is said to be a very brilliant woman in intellect, and fully capable of carrying on the work successfully.

Royal women are becoming more and more interested in literary work. Lately it is learned that the Crown Princess of Austria has written a book of travels, and also made the illustrations for its pages.

The Queen of Denmark is a woman of marked ability and high intelligence. She has the reputation of having more orders and decorations than almost any

other royal woman of Europe. There is one which is rarely conferred even upon Sovereigns, but which she possesses. It is that of Grand Commander of the Dannebrog.

In Chicago a Japanese girl is learning dentistry. It is only another evidence of the enterprise of this people in undertaking the methods of Western civilization.

Aristocratic mothers of America may learn a good lesson from the fact that the Princess Frederick Leopold of Prussia renounced all great festivities of the year in order to nurse her baby herself.

Dinner Menu.

Consomme.		Rolls.
Baked White Fish.	Stuffed Potatoes. Peas.	
Broiled Chicken.		Salted Crackers.
Sweet-Bread Salad.	Cocoanut Mountain Cake.	Maccaroons.
Ice Cream with Conserve.		

Pickles and olives are upon the table throughout the meal.

For the Home Table.

BEEF SALAD.

Cut cold, boiled beets in dice. Line a salad bowl with crisp lettuce and heap the beets in the center. Over this pour a mayonnaise dressing, just as it goes to the table. The dressing should be ice cold.

CHEESE OMELET.

Take two cupfuls of scalding, hot milk, drop in a bit of soda the size of a pea, then stir in a cupful of dry, grated cheese. Beat six eggs to a froth, and pour the hot mixture gradually upon them, beating steadily. Put in saucepan, salt and pepper to taste. Stir two minutes over a hot fire and pour over buttered toast. This makes a dish fit for a King.

PEACH PIE.

Line a deep, pie plate with a rich crust. Lay in the peaches in a double row packed closely together. Sweeten with white sugar and cover with crust and bake. Eat warm, with cream, or cold with grated cheese and iced milk. This is very nice if the top is spread with a meringue made by whipping the white of an egg and one tablespoonful of rich cream, with four tablespoonfuls of white sugar. Cover the top crust with this, and set in the oven a few minutes.

SPICED COOKIES.

One cupful of sugar; two cupfuls of molasses; two-thirds of a cupful of butter; one cupful of milk; one teaspoonful of soda; one small teaspoonful of cloves, and one of cinnamon; two eggs; one-half of a nutmeg; and five cupfuls of flour. Roll and cut out.

LITTLE PIGS IN BLANKETS.

Take as many large oysters as desired. Cut some thin slices of fat bacon, wrap each oyster in a slice and pin on with wooden toothpicks. Broil or roast until the bacon is crisp and brown. Serve hot without removing the toothpicks.

Italian Illiteracy.

The population in 1861, including Rome and Venetia, was about 25,000,000. In 1889 it was 30,946,317, and in the last 15 years the country has thrown off 1,068,486 emigrants. When it is remembered how frightfully high the Italian rates of mortality are, it will be admitted that this is a very fair increase of population. Italy, which used to be one of the most ignorant countries in the world, has made progress in this respect, and now stands far above Russia and Poland, and close behind Hungary. In 1866, among the levy of conscripts born in 1846, 64 out of every 100 were unable to read or write. In 1889 the percentage had fallen to 42. In the latter year the percentage of illiterates in Hungary was 36. It is not always possible to obtain figures for every country in every year, but taking the year 1887 the percentage of illiterates in 100 conscripts was as follows:

German Empire.....	00.72	Italy.....	44.26
France.....	10.00	Russia.....	65.57
Austria.....	27.70	Poland.....	82.19
Hungary.....	40.20		

—The Nineteenth Century.

To Raise Buffaloes.

The Omaha Buffalo Company, with a capital of \$100,000, has been organized at Omaha, Neb., for the purpose of raising and exhibiting buffaloes. It has bought the "Buffalo Jones" herd, of 42 animals, which is believed to be the only herd of buffaloes in existence outside of that in the Yellowstone Park. The herd will be removed to the company's grounds near Omaha, and be placed on exhibition there, and also be put in shape for exhibition at the World's Fair. The company proposes to raise buffaloes for sale to zoological collections all over the world. A three-year old buffalo readily brings \$500 from collectors of rare animals. It is likely that the company will also cross-breed the buffalo with domestic cattle—for robes and other purposes. A half-breed skin makes a superior robe to that of the pure buffalo. These have become of great value since the extinction of the buffalo.

SHEEP AND WOOL.

Catchings.

Water, the purest and best, should be afforded where the sheep and lambs can get it without the least inconveniences at any and all times.

It is, perhaps, true that sheep can live on less food than any other domestic animal; but that is no good and sufficient reason why it should be required to do so. This teaching has been a common and damaging fallacy.

Salt is a necessity in healthy animal life. It is worthy of note that sheep on tide-water and salt lands, or that have saline plants as a part of their food supplies, are exempt from parasites and ailments hitherto not known to be parasitic.

The feeding of sheep under favorable circumstances with judicious management and business-like attention to the buying and selling has been very profitable during the last five years. It has given a new impetus to profitable sheep-raising, quite in keeping with the progress of the times.

Lamb and mutton are rapidly becoming the chief meat of all classes of society, despite the high prices. In meats the American people are becoming more epicurean every year. Good mutton supplies this growing taste for healthful living to the masses as well as to the fastidious, luxurious few.

The pressure of low prices is most severe at the lower end of the line. There is always plenty of room and some gains for producers at the top. Consumers are always looking for that which is good, though they sometimes buy the lower grades and always feel that they pay more than the thing is worth.

The milk of a ewe is richer in fat than that of any other farm animal except the cow. It contains 6.75 per cent. of fat when the ewe is fed on good pasture, but 8.25 per cent. when the grass is reinforced by grain food. And this proportion is still further increased when a sufficient allowance of oilmeal is given.

The mutton industry, now so attractive and so permanently inaugurated, has changed the whole sheep industry of the United States, on the farms and on the ranges alike. Wool-growing *per se* has had its day. There can be no doubts as to the future make-up of a profitable sheep. No wool-bearing qualities need be sacrificed, but there must be mutton qualities.

Permanent pastures, where lands are high in price, is becoming a question of importance in the grain-growing regions. The uncertainty of the seasons gives emphasis to the question. If the season is drouthy, twice the areas are required that would answer the purpose if the season were moist. Grain growing or pastures and live stock has not been permanently decided upon. Where farms are rented the tenants are often required to risk the results of a year's labor upon grain crops, and take the chances of the season and the markets. Consequently, the values of permanent pastures are overlooked.

How to make the old farm pay, is not a new question at all, but never had more

force in it than now. Thousands of hard-working farmers are at their wit's ends to know what to do that can help to make the farm pay. Grumbling and hard work, with close margins, have benumbed their energies. Commercial fertilizers cost as much as they come to. Without fertilizers little can be expected. Sheep, in connection with better farming, is the only sure way out of the cruel situation. It need not be keeping sheep for wool alone, but in using some one of the more progressive branches of sheep husbandry that are so prosperous now.

No business man could expect to remain in business long that does not keep a careful, reliable run of his affairs. He must know the markets in which he buys and sells; he must learn when to buy; he must buy only what he can sell, and he must sell so as to gain a profit. He must know the cost of production to the fraction of a cent; he must study and avail himself of every possible economy that will give him a producing and selling advantage. A cash value must be found for the smallest waste incident to his business. The same economies and details in flock management are necessary to success as are known and practiced by the merchant or the manufacturer.

Catching a sheep requires more sense than is usually practiced by unthinking, careless, and ignorant people. It is usually done by grabbing the wool and holding the scared, struggling animal until worried out. This is all wrong, and is cruelty personified. The pain is akin to pulling the hair, and the blood-shot under the skin would astonish the thoughtless catcher. A noted Vermont sheep-breeder had a boy who had been instructed how to catch a sheep, but had failed to remember. In the presence of the breeder one day he caught a sheep in the old way—by the wool. The breeder gave him another lesson—he took the boy roughly by the hair of the head and yanked him out of the barn in a jiffy. The boy was indignant, and was told it hurt him no worse than he had hurt the sheep. Such a lesson should be given everybody who has no more sense.

During the years ending June 30, 1890 and 1891, there were imported dutiable sheep into the United States 165,602, valued at \$92,832.74, showing a decrease from the previous year of 211,903 sheep, and a corresponding value of \$1,056,980.16. The falling off in numbers of dutiable, live sheep by the importation in 1891 and 1892, the fiscal year, has been met by the importation of dressed mutton to the amount of 50,576.50 pounds. Of this class none were imported the previous year. Just what the low prices of wools and the consequent low prices of sheep in the wool-growing countries may possibly do in the way of turning frozen mutton from the countries upon our markets where mutton is now so high remains to be seen. We are large consumers of mutton, but just what per cent. of the annual increase of flocks is consumed is not now known. Certain it is that flocks are rapidly on the increase.

Evidences of Change.

Country towns and villages in market reports mention prices of Spring lambs.

"CONDITION, DISEASES, LOSSES."

How Sheep Have Come Through the Winter in Various Sections of the Country.

Hon. J. R. Dodge, Statistician United States Department of Agriculture, makes the following report as to the sheep of the country for the year ended April 1, 1892:

CONDITION.

The condition of this class of animals is almost uniformly high, the result of a comparatively mild Winter, good care, and a sufficient supply of food. In the districts where the mutton supply and marketing of Spring lambs is an important aim in sheep-raising, and where, consequently, good care and shelter are afforded during the Winter, the present condition, as regards general healthfulness, flesh, and vitality, is practically perfect. In the East, from Maine to New York, in no State does condition fall more than one point below the standard by which the comparison is made. As usual, condition is lowest in those sections of the country where Winters are mild and but little shelter or care are necessary, and still less are given.

Sheep suffer more from exposure to the rains of the Winter season than from the cold, and when in addition to this exposure they are forced to seek their own food, a low condition when Spring opens is to be expected.

DISEASES.

The returns show that the flocks of the country have been remarkably free from disease during the past year. The ordinary ailments which are always present in some district, and which are always mentioned to more or less extent in a correspondence covering every wool-growing County in the country, receive but scattering attention in the present returns. This unusual immunity from disease is commented upon by correspondents, and the reason assigned is usually more care and attention than heretofore. The importance of sheep in the economy of the farm is gradually becoming better appreciated, and with appreciation comes more liberal and humane provision for Winter feed, shelter, and care. Much of the disease which is present each year is the direct result of neglect, exposure to Winter storms, partial starvation, and unsanitary surroundings, where any shelter is attempted.

There are, of course, local exceptions to the favorable nature of the general report, but they are isolated and usually the result of unfavorable local conditions. But very few Counties in any State make any mention of disease at all. Scab is most commonly spoken of, the most frequent mention coming from scattering Counties in the Ohio and Missouri Valleys. Rot is reported to some extent in different sections of the country, but the returns indicate that the disease is more localized and less frequently met with than usual. Grubs in the head are mentioned as causing some loss in one or two localities in New England and occasionally in the Atlantic States. Paper skin is reported from three Counties in Ohio, while foot rot occurs in widely-scattered districts where sheep have not had proper care.

No other diseases are mentioned, though in some districts, especially those in the South, where sheep are largely allowed to shift for themselves during the entire season, constitutions are enfeebled by exposure and lack of feed, condition is poor, and losses heavy without distinct organic disease.

Correspondents assign numerous reasons for the exemption from serious disease; and in this connection the reporter for Berrien County, Ga., speaks of a supposed benefit derived from the introduction of a new industry in that section:

Since the turpentine business has been carried on in the County sheep have been unusually healthy. Drinking from the turpentine boxes seems to be a cure and preventive of some forms of disease.

LOSSES.

The losses of sheep during the past year were lighter than during any recent season. The importance of this class of animals in the economy of the farm is each year better appreciated. Values have been advancing both in wool and in wool and mutton districts, and as a result better care and more liberal

feeding have been provided. This increased attention is reflected in the good condition, immunity from disease, and small rate of loss reported by our correspondents.

The rate of loss amounts to but 3.3 per cent. of the flocks of the country, against 4 per cent. last year and 7.5 per cent. in 1890. A considerable portion of the loss each year results from stress of weather in the mountain and range districts, and this of course fluctuates with the severity of the Winter. During the past Winter the loss from this cause amounted to only 1.4 per cent., mainly confined to some of the Southern States and to the States of the mountain region. The aggregate loss from Winter exposure was 648,654, and more than half of this loss was suffered in four States—Texas, Colorado, New Mexico, and California. The total loss from both exposure and disease was 1,461,412. The following statement shows the loss from exposure and from all causes, expressed in percentages, together with the aggregate loss by States:

States and Territories.	Number.	Losses.			
		Winter exposure.	All causes.		
		P. ct.	P. ct.	No.	
Maine.....	569,577	.....	2.5	14,539	
New Hampshire.....	185,078	.....	2.6	4,808	
Vermont.....	358,274	.....	2.7	9,673	
Massachusetts.....	57,544	.....	1.7	950	
Rhode Island.....	30,433	.....	1.8	568	
Connecticut.....	47,199	.....	2	1,180	
New York.....	1,421,455	.....	2.5	36,901	
New Jersey.....	103,077	.....	2.5	2,555	
Pennsylvania.....	1,091,477	.....	2.6	28,378	
Delaware.....	25,967	.....	1.0	669	
Maryland.....	164,690	.....	1.2	2,105	
Virginia.....	449,009	.....	1.3	5,833	
North Carolina.....	360,261	.....	1.5	5,300	
South Carolina.....	89,073	.....	1.3	2,609	
Georgia.....	383,017	.....	1.8	7,336	
Florida.....	117,028	.....	2.0	6,554	
Alabama.....	266,222	.....	1.5	4,145	
Mississippi.....	223,578	.....	2.0	4,625	
Louisiana.....	118,438	.....	1.8	4,394	
Texas.....	5,040,175	.....	2.7	136,009	
Arkansas.....	264,094	.....	1.4	3,451	
Tennessee.....	500,007	.....	1.3	13,666	
West Virginia.....	529,204	.....	1.7	14,389	
Kentucky.....	773,336	.....	1.3	19,338	
Ohio.....	4,468,087	.....	2.3	102,766	
Michigan.....	2,353,779	.....	2.7	64,076	
Indiana.....	1,161,702	.....	2.8	33,529	
Illinois.....	848,022	.....	2.5	21,232	
Wisconsin.....	907,708	.....	2.5	23,154	
Minnesota.....	357,101	.....	1.8	6,428	
Iowa.....	865,081	.....	2.0	11,501	
Missouri.....	910,623	.....	1.0	21,999	
Kansas.....	469,433	.....	1.0	9,658	
Nebraska.....	299,894	.....	1.0	6,205	
South Dakota.....	270,000	.....	1.2	7,560	
North Dakota.....	120,000	.....	1.7	11,300	
Montana.....	2,099,357	.....	1.2	41,787	
Wyoming.....	1,141,492	.....	1.3	25,113	
Colorado.....	1,710,395	.....	3.0	76,908	
New Mexico.....	2,967,480	.....	3.5	192,886	
Arizona.....	611,498	.....	2.0	30,573	
Utah.....	2,055,900	.....	1.5	32,248	
Nevada.....	504,710	.....	1.7	20,188	
Idaho.....	327,077	.....	2.0	30,088	
Washington.....	686,521	.....	1.0	11,671	
Oregon.....	2,456,077	.....	1.5	36,841	
California.....	4,053,541	.....	1.2	122,506	
Total.....	44,938,265	.....	1.4	1,461,412	

From Michigan.

EDITOR AMERICAN FARMER: Our association is in fine order and the Lincoln interest is at high tide. J. J. England, Chairman of Directors, has imported three ewes and a ram lamb from Ontario. The two yearling ewes weigh 255 and 259 pounds, respectively. The ram lamb, when 11 months and six days old, weighed 245½ pounds, and had wool 13 inches long. W. S. Allen, of Saranac, has two Lincoln ewes imported from England that weigh 610 pounds, and have not been grained this Winter. He also has five Lincoln ewes that sheared last year 80½ pounds. The writer has a ram lamb, from a 251 pound dam and a sire imported from England, that has weighed 497 pounds.

The Lincolns are credited by the Centennial report on sheep and wool with being the finest long wool sheep grown, and we claim them to be the heaviest shearers, merinos excepted.—H. A. DANIELS, Secretary Michigan Lincoln Sheep-breeders' Association, Elva, Mich.

RAMBOUILLET MERINOS.

Comparison With American Merinos.
An Address Delivered at La Peer, Mich.

Rambouillet merinos derive their names from Marquis de Rambouillet, who formerly owned what is now the French Government Experimental Farm. By the way, I will say right here the French don't experiment only by a most thorough test. Their sheep have been bred pure for 106 years at this farm, and for 92 years have had no new blood added to the flock.

The type must be by this time very thoroughly fixed. This farm comprises several thousand acres of very fertile land. It is about 30 miles southwest of Paris, and around the old castles of Louis XVI. has grown up quite a lively town. I spent three days here, and in company with Monsieur La Flize went over the farm and viewed the immense flocks of sheep. I examined both rams and ewes at the immense stone bergeries. All averages of weight of animal, fleece, staple, etc., are made by the thousand. Many statistics as to regime, gain per head by the day, by the year and 10 years; as to size, wool production, flesh production, etc., is published in Vol. I, American Rambouillet Record, so I will not take time now to give statistics.

Monsieur Victor Gilbert brought the first importation of these sheep to Rambouillet in 1786, and selected them from the Lion races in Spain at that time. Marquis Gilbert—V. Gilbert, *filz*—is still breeding these sheep, and has a flock that has not had an outcross since 1828. I visited his flock, and I think they were the finest sheep I ever saw of any breed in my extensive travels. Napoleon I. took a personal interest in these sheep in 1800, and it is evident they have now the largest merino sheep in the world, rams often attaining 300 pounds and upward.

Referring to wool, I think as to fineness Rambouillet and American merinos are equal. Monsieur La Flize, Director of Rambouillet, said to me "no finer wool can be produced." As to length of staple the Rambouillet merino exceeds the American merino by 50 per cent. It is always combing wool, and has long been noted for its wonderful length, strength, compactness, evenness of fiber, and elasticity. As these sheep have no wrinkles, the wool is of a uniform length and evenness of filament that cannot be produced on wrinkly merinos. These sheep have been bred all these years in this direction as to the production of wool.

There is not that excessive quantity of grease to remove in scouring that is so common in the American merino wool. These sheep produce wool that gives a greater per cent. of scoured wool than the American, by from 20 to 50 per cent. We have scoured both rams and ewes' fleeces, and of a fair average of our flocks, and 49 per cent. is the lowest from a ram and 57 per cent. is the highest from a ewe; not much difference between rams and ewes' fleeces as to scouring qualities. They usually shear about 10 pounds by the flock and sometimes 12.

You American-merino men here to-

day can tell us, if you will, how much scoured wool—actual wool—your flocks average, and then we can tell which has the advantage. I think the only true test of what a sheep or flock or breed produces is to get the ratio of "laine in quint" to the scoured product. Some of these sheep shear 16 to 20 pounds per individual. I sold a ewe lamb this Winter that was sheared by the purchaser when 12 months old, and yielded 16 pounds and weighed 140 pounds.

We generally send our wool direct to Boston, and will do so this year. You can look over your prices and see what combing fine wool brings. Two years ago I received 39 cents per pound. This year it will bring us 36 cents. How does this compare with some of you American-merino men who get 12 1/2 cents per pound for wool? Where wool is the only factor that enters into the production of sheep, it is very important to know how much scoured wool can be produced, and I doubt if one of your American-merino breeders here to-day can or dare say how much actual wool for the manufacturer you are producing. You boast of your great weights of fleeces, but not one of you has ever boasted of the scoured wool your sheep are producing annually. A sheep may shear 20 pounds and the wool bring \$2.50. Another sheep may shear 12 pounds and the wool bring \$3.60. The 20-pound fleece scoured giving four pounds, at 80 cents, gives \$3.20. The 12-pound fleece scoured giving six pounds, at 80 cents, gives \$4.80. It is only by actual test of scoured wool that we get at the actual cash value, or the manufacturing value, which is the true value.

Absence of wrinkles is regarded by some as an advantage as to expense of shearing, profanity, etc. There is no loss in scouring from the waste of crust formation. I saw 50,000 of these sheep in France, and I saw no wrinkles. All were plain as our Michigan sheep.

It is held by some that success in sheep husbandry must combine both wool and mutton. Rambouillet have long been noted as a mutton sheep, their well-marbled flesh having no superior in the English races. They have large frames, strong bone, and are quick feeders at any age. Early maturity is a valuable characteristic which they possess. Lambs at one year, well fed, will average 150 pounds. I saw a ram lamb under one year old weigh 205 pounds. Ram lambs often weigh 150 pounds at eight months of age.

Nutritive capability as to wool and mutton is a quality of this breed of merinos I wish to call your attention to. These sheep have been bred to this end for a century. Aptitude to produce the greatest amount of wool and mutton from a given quantity of food is possessed in the highest degree by this breed of sheep. This has been brought about by a long line of selection in the hands of skilful breeders. Being a large animal this is of importance. I have seen a flock of breeding ewes that would average 170 pounds by the 1,000, and it would take an expert to select a score that would be the choice of the flock. It is claimed that these sheep have reached the highest possible perfection in this direction of nutritive capability for a given regime; the highest possible

attainment in mutton and wools as to both quantity and quality.

Flesh direction at birth is another advantage I wish to speak of. It is one of the points made in judging both rams and ewes. This has been an established fact for 50 years in the hands of skilful directors. It is possible to produce 300-pound sheep of pure merino blood and of perfect form, the lambs of which will indicate aptitude to fatten; also size and flesh direction at birth. It is a fine point to be able to select breeding stock of both sexes that will give evidence of this in their offspring. These sheep are noted for their freedom from catarrhal disorders.

Thousands of sheep are slaughtered in the United States that ought to be condemned because in a fevered condition. One-half usually produces twins. Single lambs often weigh 16 or 17 pounds at birth, and twin lambs weigh 20 to 26 pounds per pair. They are heavy milkers and good mothers.

Being equal to the American merinos as to wool, and in flesh production equal to any of the English breeds, as they become more numerous they will add an enormous profit to the food and wool product of our country. For crossing qualities they are equal to any of the English breeds for mutton, and the impressive power is so great that the cross-bred lambs on full blood or grade merino ewes is often nearly equal to the pure French animal for size and form. In California, the cross of French rams on merino ewes is very numerous. California is now importing rams from Michigan for this purpose of crossing with the Rambouillet breed. The cross-bred rams from the French rams and American merino ewes are in high demand, especially from the cross where both sire and dams are recorded. The product is pure, merino blood.

For practical utility, this cross seems to hit the mark closer than any other breed of sheep; merit is the true test. It seems to me they produce wool equal to any other race of sheep, and mutton equal to the English breeds.

I can safely say for practical utility and nutritive capability, French merinos de Rambouillet combine more good qualities than the small, wrinkly merinos that are not up to the demand of the day, and have no superior, no equal among any of the English breeds.—THOMAS WYCKOFF.

The Commission Men.

While sheep men are watching the corners and mending leaks in their business it is suggested that the reputation of commission men be carefully investigated. It will soon be time to send forward the products of their flocks. It is the usual way to consign to some commission firm, who receives, looks after, sells, and makes returns with itemized bill of expenses, commissions, etc., etc. Printed blanks, with various items of charges, are used, and it is customary to note each charge in the blank with business-like design. It is suspected some of these charges were not incurred; were not necessary; were simply tricks of the trade to fill the pockets of the commission man. Such chances of profits are temptations, and all men have their weaknesses; but this does not justify the prac-

tice of perquisites as honorable. All these charges are deducted from the sales, and what is left is sent to the producer as his right. This is sometimes sent sooner and sometimes later, depending upon circumstances and the honesty of the consignee. It is fair to presume that all men are honest, but experience proves they are not. It is fair to presume as many commission men are honest as any other class of business men, but experience proves that some are more reliable than others. Where men have the sole management of farmers' produce, where there is so little opportunity of finding out the real facts and figures as charged in bills of sales, it is important that strictest integrity of character be established, that perfect confidence should exist. It is known to be true that men doing a legitimate commission business rarely fail financially, and that they become wealthy. This is no evidence of dishonesty at all, but leaves room for suspicious and proper questions. All men in business have a business record, sometimes not a good one. The references to banks are all very good so far as financial standing goes. The farmer wants to know the reputation for fair and square dealing as well as the check he receives on his consignment. All this is due and can be gotten on proper inquiry.

Cheviot Notes.

The Cheviot Sheep-Breeders' Association of America is issuing its first volume of pedigrees. Organized in January, 1891, with 32 members, it now has 70 members, and has registered nearly 1,000 sheep.

The next annual meeting will be held at Oneonta, N. Y., the fourth Wednesday in January, 1893. In connection with the meeting will be a ram show, open to the world for Cheviots. Undoubtedly this will be the first show of the kind ever held in America. Large prizes will be awarded.

Mr. George Lough, of Hartwick, N. Y., recently imported some fine specimens of Cheviots from the flock of Mr. John Robson, Newton, Bellingham, Northumberland.

Cheviot rams are being extensively used on the western ranches on account of their "rustling" qualities.

An unusually large number of ewes are reported as having given birth to triplets, showing that the Cheviots are not excelled for prolificacy, not even by the Dorset Horns.

Where Do Sheep Belong?

They belong to every situation where civilized human beings belong. They adapt themselves to the most forlorn conditions, and taking characteristics in harmony with their environments become as indigenous to the situation as do the human beings or wild animals that may be found there. In a wild state, we are told, they are natives of hills and mountains. In the domestic state they have a liking for the higher lands in their pastures. This is due to different causes, and gives them especial preference over other domestic animals in the permanent fertilization, sterile hilltops, and barren hillsides. God made them as the helpmate of man in agriculture as well as civilization.

THE APIARY.

Humming.

Good honey should be about one-third heavier than water.

Bees should be kept on every farm, as they are beneficial in many ways to crops and fruit-bearing trees and plants.

A permanent, durable covering for hives is to be found in yellow French ochre. This ochre combines readily with lead, and makes a paint more durable than pure lead.

A cheap and easy way to get rid of ants is to keep a good supply of slacked lime around the hive-stands. As it becomes crusty and dry a fresh supply should be put on.

At a recent meeting of beekeepers at Greeley, Colo., 2,000 colonies were represented, with an average output of 45 pounds. Statistics show that in that State there is an increase in the number of colonies of 40 per cent. each year.

A good way to cure dry sections, which would break when put together, is to leave them in the box and saturate the box with boiling water. The water should be poured in a stream about as large as a goose quill. Care should be taken not to get any water on the dovetails.

Alsike or Swedish clover has been found to be an excellent honey plant. The blossoms change from white to a beautiful pink and are very fragrant. The bees easily find the honey, as the blossoms are short and the heads no larger than white clover. To plant a field of this clover is a profitable investment, as besides yielding rich honey it furnishes good forage for farm stock. The best soil for this purpose is a clay loam, with a good proportion of vegetable matter.

Every pound of honey-comb costs the bees about 10 pounds of honey; so if honey sells at 10 cents per pound, then worker-comb or comb-foundation is worth \$1 per pound. This doubtless is the reason why the manufacture of comb-foundation and its demand have now become so very surprisingly large. Every beekeeper that uses comb-foundation really about doubles his investment. It pays to keep step with improvements in any industry, and especially is this true of beekeeping.—*American Bee Journal*.

An enthusiast on beekeeping recently summed up a report showing the progress of that industry in Florida. The reports of 110 persons show a total of 5,305 colonies, an average of 48 colonies to each. Thirty-seven per cent. use the Simplicity hive; 28 per cent. the Langstroth; 16 per cent. box hives, and the balance miscellaneous makes. Seventy-six keepers reported from 4,402 colonies 13,542 pounds of comb and 180,543 pounds of extracted honey, making a total of 194,043 pounds, or an average of about 44 pounds to the colony. Forty-eight keepers reported 2,669 pounds of wax. The main surplus honey in this State comes from orange, gallberry, tyty, tupelo, snowvine, black gum, saw and cabbage palmetto, black mangrove, pennyroyal, golden rod and partridge pea.

SPRING REVISION OF COLONIES.

Preparation for the Honey Harvest.

A thorough revision of all colonies should be undertaken as early in the Spring as the weather will permit. But one should be very cautious about doing this before the air is fairly warmed up, for by pulling the brood-nest apart and exposing the combs containing brood to the outside air the temperature is often so lowered as to cause the loss of some of the brood; or if the brood-combs are not put back in the same relative position, the bees may not be able to economize their heat so as to favor the development of the brood and the rapid increase in the area occupied by brood. To aid in the same direction all upward ventilation should be stopped and the heat generated by the bees retained in every way possible. There should be no hurry about removing packing surrounding the brood-nest. Abundant sealed stores also assist in retaining an even temperature in the brood-apartment. The great desideratum at this season is brood, plenty of brood. It must be borne in mind that a worker requires 21 days to develop from the egg to the perfect bee, and even in the height of the working season it is some 14 to 16 days ordinarily after the young bee emerges from the cell before she will go out as a honey-gatherer; hence, the hive must be well stocked with worker-eggs at least five to six weeks before the opening of the main honey-harvest. But to care for these and keep up the necessary heat in the hive requires a large population; hence, unless in a given hive one or two generations of bees have been hatched out during the earlier Spring months or the hive was well crowded with bees in the Fall and has wintered with slight loss of population as well as without disease (which is weakening and causes the bees to dwindle rapidly upon flying out in the Spring), it will be useless to expect from it, without aid, the best results. The practice of some is to equalize the strength and brood of all colonies as near as they can in the Spring. But a preferable plan where honey is wanted and the main harvest comes during the early part of the season is to leave the strong colonies untouched as regards their bees and brood, and assist the medium ones with a little brood from the weaker colonies. The latter, if they have good queens, are then to be treated as nuclei; that is, the combs containing brood are to be placed near the center of the hive, with a comb of honey on each side of them and still outside of these division boards; above a quilt is to be pressed down tightly, and over that a cushion laid; the entrance is then to be contracted to one-half inch or even, so as to let but one bee pass at a time. They will gradually build up to good colonies if empty combs or frames with starters are inserted from time to time between the brood-nest and the outside or store combs. It will not do for obvious reasons to insert such combs or frames into the middle of the brood-nest unless the weather has become quite warm and the small colony has acquired considerable strength. But a frame of brood if available can be so inserted from time to time as to hasten the building up of these nuclei. This same caution applies to

full colonies when they undergo the Spring revision. By proceeding in this manner most of the colonies can usually be gotten ready to store honey at the beginning of the harvest instead of all merely getting so toward the close of the harvest, as would likely be the case if the strong ones were drawn on to build up the weak. The difference will often be a good yield as compared with a poor one.

The cold rains of the past month have kept many from looking over their colonies, but these should all be put in working trim as soon as possible now. Bottom boards should be thoroughly scraped to remove all debris and wax-moth larva. The excess of propolis and bits of wax should be removed from the frames, and if the hives need repairs, the frames should be lifted over into new ones, which it is supposed have been prepared during the Winter. The empty hives can then be repaired and repainted to receive swarms. The bottom boards of box hives should also receive the same attention, and if holes are bored through the tops of such hives, cases furnished with one-pound sections, with comb-guides in place, can be set over them at the opening of the main harvest, the whole thing protected from the sun and rain by an outer box in the form of a cap, and fine, white honey in convenient form for the table or market will be secured without disturbing the bees or combs in the body of the hive. These sections can be had at about 50 cents per hundred, or \$3.50 to \$4 per thousand, of any manufacturer of apiarian supplies.—FRANK BENTON.

Purchasing Queens.

Many beekeepers will want to buy queens of someone of the better races this Spring to improve their stock. At the present time the choice lies practically between the Italians and Carniolans. The former have been known for over 30 years in this country, and are very generally recognized as superior to the common brown bees. The Carniolans have grown in favor very rapidly since their introduction, less than 10 years ago, largely on account of their uniting to the same general good qualities of the Italians far greater gentleness, enabling timid beekeepers, ladies, and young people to manage an apiary with much greater safety and pleasure than formerly; also they Winter the best of any race, and their combs rival in whiteness those built by any other race.

Another race of bees has recently been advertised under the name of "Punic" bees, the queens having been offered at from \$1.50 to \$50 each. The former price is for unfertilized queens; \$5 is asked for fertilized queens, \$10 if purely mated, \$40 if selected, and \$50 for such as are said to have been imported from the native land of this wonderful new race, which, according to the claims of the advertiser, unites all the virtues that one could possibly imagine as belonging to bees, with none of their faults. As the writer happens to have been the first to call general attention to this race of bees, under the far more appropriate name of Tunisian bees, Tunis being the native land of the race, and as he has had considerable experience with them in Tunis, and also in several other coun-

tries, he may be allowed to express an opinion as to their merits and demerits. The former are soon told, for the Tunisians (or Punics) are industrious and prolific, somewhat more so than any race of bees coming from Europe, but rather less so than the eastern Mediterranean races (Cyprians, Syrians, and Palestines). But their faults make a list! They are small and very black; are spiteful stingers, as vindictive as the worst race known; bite in addition to stinging; are great propolizers, daubing hives, sections, and combs lavishly with "bee-glue;" they swarm as much as do Carniolans and Winter as poorly as do Palestines. Most people will think the genuine imported queens are a trifle extravagant at \$50 each, especially those who remember that in 1885 and 1886 just such queens were offered at from \$4 to \$10 each, direct from Tunis, northern Africa. Millionaires who keep bees will, of course, buy "Punic" queens at \$50 each for all of their hives, although they wouldn't look at Tunisians a few years since at \$4 to \$10. But the rest of us will plod on with bees whose queens cost us \$1 to \$5 each, and that are chiefly noted for giving us honey, money, and pleasure in handling them.—FRANK BENTON.

Will Beekeeping be Overdone?

EDITOR AMERICAN FARMER: A number of years ago, when beekeeping was comparatively in its infancy in my County, Fayette, in the State of Ohio, I gave notice in some of our County papers that there would be a meeting of beekeepers of the County on a certain date. The time arrived and a few persons attended. Among the rest was a young man who had been in the business for a good many years, who expressed a fear that the education of the people in the business of bee-culture might be a serious drawback to those already in the business. The organization was, however, effected, and meetings were held monthly during the Spring, Summer, and Fall months. Our membership increased at every meeting, until it numbered 100 in a short while. The organization was effected seven years ago, and at the first meeting of this season, April 13, there were not enough present to hold a meeting, so you will see that educating the people has very little to do with the business. A man may start out to learn a trade, but if he has no natural liking for the one he selects he will not make a success of it. Thus, the one great drawback to bee and honey culture is the lack of a natural love or liking for the business. To cultivate a liking one must apply his mind to the various wants of the honey-bee; to the best methods for assisting Nature in its development; to its breeding and gentility. Care must also be taken to procure the best breeds and to use the best appliances for the work. It is often said, "I know there is plenty of money in the business, but O! that business end." This objection caps the climax, and almost universally gets in between the would-be beekeeper and the money that is in it, so that summing up only a few of the drawbacks is conclusive evidence to my mind that the business will never be overdone.—S. R. MORRIS, Bloomington, O.

The blood of bees is not red, but is colorless.

Winter Treatment of Bees.

EDITOR AMERICAN FARMER: If bees could be Wintered without any danger of loss, there would be much more profit in bee-culture than there really is; but as the loss in Winter is scarcely ever less than 10 per cent., and sometimes 50 or 60 per cent., it is considered quite an item to be able to carry a large apiary through the Winter without a loss of more than 10 per cent.

Here in cold Vermont most of the bees are Wintered out of doors, in chaff-packed hives. As they are generally confined longer than in the warmer climates, and as they are out of doors, they get a chance to fly sometimes in Midwinter and always earlier in the Spring than those Wintered in the cellar.

If they have poor honey or honeydew to Winter on it causes dysentery, and they are generally benefited by a cleansing flight in Midwinter.

The principal packing used consists of equal parts of chaff and sawdust mixed. The hives are double-walled, with a space of two or three inches between the outer and inner cases. This space is filled with the chaff and sawdust. At the first approach of cold weather, the honey boards should be removed and a miniature bridge placed over the combs to support the burlap that is spread over the hole, so as to allow the bees to pass over the top of the frames from one side of the cluster to the other without going to the ends or bottom of the combs, which are always colder. Then a crate five or six inches in depth, with a cloth bottom, made to fit inside the outer case, is put over the whole and filled with chaff and sawdust. This crate can be taken off in Summer and packed away without removing the packing, and it is then always dry and clean. Great care should always be taken to have the sawdust dry.

It is plain to be seen that this cloth and packing will allow of a slight upward circulation, and thus carry off all moisture caused by the heat of the bees, and it will keep them in a dry, healthy condition; where, if the covers were sealed air-tight, moisture would be more liable to collect on the inside of the hive, and by freezing and thawing make it very disagreeable and harmful to the inmates.

On the first warm day in Spring, when the bees are flying well, the hives should be opened to find out whether there are plenty of stores and a queen. If they have no queen they should be united with some other colony. If short of stores, they must be fed. Poor stores, such as honeydew, can be fed now safely, as they have frequent flights; and as they consume a great amount of honey in brood-rearing at this time of the year, care should be taken that they do not get out and starve within a few weeks, or days, perhaps, of the honey flow. Always be sure they have enough. Don't even make them economical, for this will lessen brood-rearing.

A very good substitute for pollen in early Spring is rye or wheat flour. This also aids in brood-rearing, which should always be encouraged.

I would advise the novice who is about to launch out in beekeeping not to try half a dozen different hives to see which is the best, but to select some standard hive and frame, and stick to it. He

should have frames and clamps to fit any hives that he wishes to put them on. He should get the standard Italian bees, or the blacks, and Italianize, and not go into the new races until he knows something about them. Above all they should not be neglected, but attended to as they should be, and he will surely get some profit.—W. G. LARRABEE, Larrabee's Point, Vt.

Spring and Early Summer Management.

EDITOR AMERICAN FARMER: Every beekeeper should soon decide whether he will produce comb or extractor honey and have everything needed in readiness for the crop. If comb-honey is the object it is well to make the hives full of brood about a week before the harvest, even at the expense of taking brood from the weakest and filling the hives of the stronger with brood, as only the strong colonies will work in boxes to any advantage. For comb-honey they will probably swarm and leave the boxes partly filled, and in this case hive the new swarm on the old stand, place the boxes that are now on the old hive on the new hive, and after covering place the old hive on top of all for one week; then move the old hive to a new stand. All the old bees will unite the new swarm and help very much in the production of comb-honey, and the moving of the old hive at this time usually prevents all after-swarming.

To produce extractor honey, when the hive is full of brood and honey, draw one-half the combs from the brood-chamber, place them in an extra chamber directly above those below, and fill out both parts with frames of foundation. The extra room below for the queen and above for honey usually prevents all swarming and gives good results. The queen must be kept below by the use of a queen excluder. But to secure a good yield of honey we must have our bees strong at the right time, and if they are strong before the harvest they become consumers instead of producers, and the harvest is a waste to them. Therefore use all precaution to have them strong in time. It is well to contract the brood-chamber, by use of division boards, to only as many combs as they can well occupy, and only add combs as they actually need them. See that they have plenty of stores, and are well protected from cold.

Remember, a few pounds of honey or sirup may save them at this time of the year, as the more brood they are rearing the more honey they will need.—F. H. CYRENIUS, Oswego, N. Y.

Bees are Friends of the Farmer.

Where bees are not abundant in the immediate vicinity of a farm, so that the blossoms of fruit trees, clover, and other crops of the farm garden or orchard are constantly visited by these industrious pollenizers, it would pay the farmer to keep a few hives, even if no honey should be obtained and no heed given as to what became of the swarms which might issue from them. Without the thorough distribution of pollen, the fertilizing dust (generally yellow or reddish colored) of flowers, and the cross-fertilization which results, fruits and seeds are not well-developed nor nearly so numerous as when

the pollen is carried from flower to flower through the agency of insects. It would not be easy to estimate what part of the credit in the production of fruit and seed crops belongs to bees; but it is safe to say that this is very great, and that if all bees were removed from a given territory the complaints on account of poor fruit and seed-crops would be immediate and loud. The time has come when fruit-growers and farmers are beginning to understand that bees are among the most valuable aids toward increasing the products of the farm and orchard.

The Best Book on Beekeeping.

"Langstroth on the Honey Bee" has been revised by Charles Dadant, of Hamiltion, Ill., and an edition published in French also. This has been receiving much well-merited praise in Europe. Here is what an Italian (Count Max Ricciardelli) says of it in the last number of the *Revue Internationale d'Apiculture*: "What a magnificent work Langstroth's is; it is the most perfect book which we possess on apiculture."

Conventions.

Susquehanna County Beekeepers' Association.—Thursday, May 5, 1892, is set apart for the 10th semi-annual meeting of this Association, at Bullard's Hotel, Brooklyn, Pa. Secretary, H. M. Seeley, Harford, Pa.

Northern Illinois Beekeepers' Association.—The Spring meeting of this Association will be held at O. Taylor's, Harlem, Ill., on May 17, 1892. Secretary, D. A. Fuller, Cherry Valley, Ill.

Connecticut Beekeepers' Association.—The first annual meeting of this Association will be held at Hartford, Conn., on May 12, 1892, at 10:30 a. m. Secretary, Mrs. W. E. Riley, Waterbury, Conn.

Haldimand Beekeepers' Association.—A convention of this Association will be held at Nelles Corners, Ontario, on May 28, 1892. Secretary, E. C. Campbell, Cayuga, Ontario.

New Breeds of Sheep.

We hear much about somebody creating a new breed of sheep. Nobody has ever done it. It is the result of natural conditions, and human selections if in accord with Nature leads to new breeds and varieties. Part of these conditions are natural, and may be improved by skill and industry. Thus breeds already existing are improved, provided they find better surroundings than they formerly had; if poorer, they degenerate. When we come to look upon breeds as *results* and not *causes*, a study of causes will be advantageous to sheep husbandry. It is time old ideas on this question were corrected.

A Recipe for Lemon Pie.

EDITOR AMERICAN FARMER: My recipe for lemon pie is different from any I have seen in print, so I send it. We think it nice: One cup of sugar; butter size of an egg; four eggs; juice of two lemons. Beat the sugar and butter to a cream, add the eggs, and then the lemon juice. Beat all well together, and bake with an undercrust only.—LOUISA FUNSTON, Goodwater, Kan.

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Owing to a technicality in the postal laws, it cannot be sent in this combination except in a paper cover. It will well pay, however, the recipient to have it bound in cloth. The cloth-bound edition, containing exactly the same matter, will cost at any bookstore about \$4.00.

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This chain is not for sale except in connection with the paper.

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Cacklings.

Cleanliness is the key to success in poultry raising.

The best plan is to feed only so much as can be eaten up clean.

Whole wheat and corn mixed form the best grain food for fowls.

Early-sown beets make a good feed for the hens and chickens.

Fowls to do best should have a plentiful supply of earth, grass, and gravel.

Cut fresh bone is excellent for hens. It contains just what they need.

Give mother hens motherly attention during the brooding season.

It is a good time to organize a general rat-killing so as to save the chicks.

Keep different breeds separate and study each closely.

Young bronze turks should have dark shanks, approaching black.

More can be made out of 10 hens in a house 10 by 10 than 20 in the same space.

Roosting places should be scraped out at least as often as every two days and resodded.

Chickens and ducks can be raised advantageously together; in fact, they do better together than separately.

Chickies do not need a roosting place until four months old. Low roosts should then be given them.

Successful poulterers have found it wise to feed little chicks five times a day and punctually at stated times.

If a poultry house can be shut up fairly tight, the lice in them can be exterminated by burning sulphur in them.

After the chickens are three weeks old, feeds of small grains, mixed with a little cracked corn, will be much better than soft dough.

When hen-turkeys are very heavy in body it is better to not give them more than 10 or 12 eggs, as they are liable to break the eggs if more are given them.

The plan of many turkey-raisers of waiting for a second clutch of eggs before allowing a hen to set is bad. The first clutch always spoils before the second is ready.

Broomcorn and sorghum seed, which can generally be had for the carrying away, make excellent chicken feed, but should be thoroughly soaked before feeding.

The beauty about poultering is that anybody can start in the business, and generally speaking, the less capital the beginner has the greater the chance of success.

It pays well to caponize. The trouble is little, the fowls sell readily at a higher price and cost much less to fatten. The increase in weight is about 40 per cent.

Games, Leghorns, Polands, and Hamburgs do best when hatched in May or June. They should be given a wide range, and will do good work in devouring slugs, grubs, bugs, etc.

Wheat screenings are very poor feed for chickens, unless they consist mostly of the seeds of millet, chess, or other things that are weeds in the wheatfield, and they should then be well ripened.

If but a small run can be afforded, it had better be of earth rather than of grass. Grass speedily becomes foul and cannot be cleaned, while earth can be raked over and a fresh surface produced every day if necessary.

When sweet milk is fed chicks care must be taken to keep the dishes sweet and clean, as the milk soon sours in the sun. The dish should be carefully rinsed each time it is filled and scalded every day.

Little half-pint pans, with a clean stone about as large as one's fist set in the center, are excellent for drinking fountains. The stone prevents the chicks upsetting the dish and keeps them from crowding into it and wetting each other.

Instead of consulting the stock reports for good investments of your surplus cash, figure out how much you will make by investing in a good hen, which will cost you \$1 a year to feed, and will lay nine dozen eggs a year, besides multiplying herself from 10 to 20 times.

Buckwheat is good as an occasional feed during the Winter and in the Fall when the fowls are being fattened for market. Those who keep large flocks will do well to put in a small patch of buckwheat, that they may have this grain.—*American Cultivator*.

Chaff and unripe seeds have but little value, and the value of the sound seeds are more than counterbalanced by the possible injury they may do to the land when they are not all eaten and all digested, so that they cannot germinate. Whole and sound wheat is usually the cheapest in the end.

A farmer's wife who has been remarkably successful with turkeys, raising as many as 300 in a year, feeds the little ones for the first month on custard made of milk and egg, baked without sugar. After that with cornbread, alternating occasionally with soaked oats, till their combs begin to turn red and they are ready to feed with the flock.

It is a good plan to have several turkey hens come off at one time; they and their broods are no more trouble to care for than one would be; in fact, they are much more tractable, it being the nature of turkeys to go in companies. One alone is always restless and ill at ease, seldom content to remain long enough in one place to give her little ones the requisite rest.

At first the turkey hens lay on alternate days, then every day, sometimes producing as many as 20 eggs in one clutch, though the last two or three are usually found in the nest after the hens begin to sit. Fresh eggs should be removed from the nest daily, handled carefully, and kept in a moderately cool place in a basket lined with cotton, turning them over gently about twice a week. The first turkey hens which show a desire to sit should be allowed to do so, as the fresher the eggs the better the hatch.

The best treatment for roup is to take a small quantity of good strong vinegar in a coffee cup or small bowl, tie a small cloth or swab on a stick six inches long, and anoint the hen's head and neck with it twice a day for two or three days, according to how badly they have it. Use mittens or gloves, and change the vinegar and rinse out the swab when you change hens. Put logwood in their drinking vessel and pour on lukewarm water; give them no other drink. Let them out so they are not confined too closely.

In Kentucky we get best results when the first broods come off in the last of April or early in May; the poults are then healthiest and strongest, even though the weather be somewhat cool at first. The other turkey hens, when not allowed to sit, will soon begin laying again, and with good management will bring off fine broods by the 15th of June. Thus the first hatch will have time to attain a fair size by Thanksgiving, and the second by Christmas. It is not desirable to have any turkeys hatch later than July if it can be avoided.—*Correspondence Country Gentleman*.

A hen turkey devotes most of her intellect at this season to concealing her nest even from her best friends. She has been known to make her nest a mile from home, and use all manner of artifices to prevent its detection. This calls for the greatest watchfulness on the part of turkey-raisers, as these nests are a tempting bait for crows, foxes, and other enemies. The best way is to keep them, if possible, in a large, grassy yard, with nests made of old barrels or boxes, turned down, holding a few handfuls of straw or leaves, and more or less concealed under cedars and other shrubbery.

Falstaff objected to eggs from a flock led by a male bird, and he was right. There must have been some knowledge in Shakespeare's day of the fact that when fowls are kept for eggs alone it is not only a waste of food and a torment to the hens, but a detriment to fine quality of the eggs to let run with them what Mr. Bliss has well called "deadhead roosters." In modern times it has been shown that impregnated eggs will not keep nearly so well as those from maiden pullets. I have bought eggs for setting and dispensed with males for some years,

and have saved by it more than the cost of the eggs I have bought in the large number of eggs laid by the relieved flock.—*Exchange*.

Keeping Eggs in Dry Packing.

A few of the methods of packing eggs dry for keeping have been tried at the New York State Experiment Station. With these the eggs were all wiped when fresh with a rag saturated with fat or oil in which had been mixed some antiseptic, and packed tightly in salt, bran, etc. Eggs packed during April and May in salt, and which had been wiped with cottonseed oil to which had been added boracic acid, kept from four to five months with a loss of nearly one-third, the quality of those saved not being good. Eggs packed in bran after the same preliminary handling were all spoiled after four months. Eggs packed in salt during March and April, after wiping with vaseline to which salicylic acid had been added, kept four and five months without loss; the quality after four months was much superior to ordinary-limed eggs. These packed eggs were all kept in a barn cellar, the ordinary temperature of which varied from 60 degrees to 70 degrees Fahrenheit, and each box was turned once every two days. Little difference was observed in the keeping of the fertile or the infertile eggs, and no difference was noticeable in the keeping qualities of eggs from different fowls or from those fed on different rations.

Poultry that Pays.

C. H. Wyckoff, Groton, N. Y., who keeps 600 Leghorn hens, balances his books at the end of the year thus:

DR.	
Interest at 5 per cent. on \$1,000 invested.....	\$50
Cost of feed.....	800
Labor.....	800
	\$1,650
CR.	
Sales of eggs.....	\$1,800
" " stock.....	70
" " manure at 20 cents a bushel.....	270
	\$2,140
Deduct expenses.....	1,070
Net yearly profit.....	\$1,070

A record is kept of each hen. Some lay an average of 250 eggs a year. The average is 168 eggs. He was at first pleased with an average of 150. Now he has several flocks that average 200 a year.

He keeps his hens in confinement in flocks of 50, each flock in a house 12 by 20 feet, with a park two by eight rods.

Cost of Eggs.

EDITOR AMERICAN FARMER: This is the way I figure out my account with the 70 fowls in my poultry yard:

DR.	
Morning ration:	
Two quarts ate boiled.....	15 cents
Two quarts barley boiled.....	
Forenoon ration:	
Three quarts bran and middlings mixed with table scraps and a little red pepper.....	5 "
Afternoon ration:	
Two quarts buckwheat and a little corn.....	9 "
Total daily cost.....	29 "
CR.	
Daily average of eggs.....	31
Price per dozen.....	17 cents
Value of eggs.....	43 "
Daily profit.....	14 "

The droppings pay for the labor of attending.—A. J. Boon, Caldwell, O.

DAIRY.

Skimmings.

Several small pastures are always better than one large one.

Never buy or keep a cow with small, contracted nostrils. They are a sure sign of inferiority in lung-power.

Lay out now an acre or so for carrots, to diversify and enrich the feed of your cattle, horses, and hogs next Fall and Winter.

An ounce of butter has more seasoning power in it than a half-pound of oleomargarine, to say nothing of the superiority of flavor.

The day of big pastures is gone by forever. They are too wasteful and expensive to compete with silos and concentrated food crops.

All things considered, the best plan of sending butter to market is in neat pound prints, or these may be subdivided into quarters by marks.

The science of dairying is rapidly progressing. Within a few years the average production of butter per cow per year has been raised from 150 pounds to 300, and cheese in like proportion.

A good way to treat a broken horn is to wrap the horn core in a strip of cotton cloth smeared with common tar, but not gas tar. This protects the tender core from the air, and the new covering is made in a short time without any more attention. The bandage may be left on until it falls off, or it may be removed after a week or two.

The New Hampshire Farmers' Institute figures out that the farmer who sells a ton of cheese sells over \$20 worth of fertilizing material from his farm, while in selling a ton of butter he only sells 48 cents worth of fertilizer. Assuming this to be true, the next question is whether in selling the ton of cheese he makes \$19.57 more profit than he would in selling the same amount of butter.

Twenty-five cheese factories in Erie County, N. Y., employed a skilful man to teach them the very best methods of producing cheese, and now every cheese in the whole 25 factories is as like unto every other as two peas. The farmers who make butter have been set to thinking by this as to whether it would not be money in their pockets to club together and hire the best butter expert they can find to give them similar instructions.

The disease of the bone of the tail in cattle is due to insufficient nutrition, and is accompanied by a generally poor condition. In such cases the bones of the extremities, and mostly of the tail, suffer first. The vertebrae becomes soft, and in time the bones die, when the tail drops off at the diseased place by reason of the gangrene. The wound then heals. The disease is not caused by a worm, but by poor feeding. At the first appearance of it it may generally be cured by cutting the skin and injecting some good liniment, and by the immediate use of good food, as bran and linseed mash, with some turnips. One dram of phosphoric acid may be given in the water of the mash. As bran contains a large quantity of bone-making material, its use as food is a preventive of the disease.

Does Dairying Pay?

The editor of the *Maine Farmer* has been running a little farm as a dairy, keeping all the cows that one man can milk in the Winter. He is the only employe, and does all the work, except in the cropping season. All the work is done by hired help. The cream is sold to a creamery. The editor says:

The records at the farm, carefully kept, show the following cows for the year:

For the full 12 months	9 cows.
Two cows sold for beef at the end of six months, equivalent to	1 "
Three young heifers with first calf milked six months	14 "
Two new cows put on for three months, equivalent to	1 "
One heifer with first calf for three months	1 "
Average number of cows for the 12 months	124

The factory monthly record for money received for cream delivered to the cream gatherer is as follows:

April (1891)	\$30 71
May	40 30
June	52 25
July	57 50
August	56 54
September	62 23
October	77 74
November	84 75
December	92 99
January (1892)	83 04
February	83 40
March	85 44

Total for cream for the year

Two veals sold

\$651 14

These figures are the direct cash receipts from the herd, entirely free from all guesswork and subject to no discounts. The average is \$70.30 to each cow. Two of the herd were three years' heifers, and three were heifers under three years, with their first calves. Ten of them are Maine State Jerseys, and the rest high grades.

Of course, the above figures do not represent the full income of the cows. We have preferred to give the direct cash returns free from all that must necessarily involve estimates. No account is made of the milk, cream, and butter used in the small family on the farm, and we make no attempt to estimate its value.

The skim milk was used in raising calves and in feeding pigs. We make a rough estimate of the value of the milk fed, without claiming mathematical accuracy. Five calves were raised during the year, now easily worth \$60. Of this, \$40 may be placed to the credit of milk. The pork made sold for \$127. There was no separate account kept of the meal fed in finishing off the pigs, but it was not large. Deducting \$27 for the meal and the butchering, and \$13, the purchase price of the pigs, will leave \$87 to go to the credit of the skim milk. These estimates, added to the cash received direct, will increase the average to \$80.36 per cow.

The cows in this herd are not remarkable for merit. There are many better herds, and making a higher record. Two of the cows were turned for beef for the reason that they were not profitable for butter. One more, at least, will go the same way as soon as opportunity favors. But the figures are high enough to prove the business profitable to follow.

Packing Butter.

If you ever pack butter in stone jars or other vessels, the best time is just as you salt it, and that ends the whole job;

but if you must have it in rolls or balls you have got to let it stand awhile and get cooler, and then rework the butter. This second working injures the quality of it a little. If one is making for family use, and does not have milk enough at all times of the year to make the family wants complete, you can keep the extra butter from the flush season sweet and nice by wrapping a whole churning of butter at a time up in a thin muslin cloth, and putting it into a clean oak barrel of brine water; or, what is better, we use 20-gallon stone jars, and they will last for years. We have a plank follower that we keep on top of this brine, so that the butter is kept under cover of brine all the time.

In this manner we can keep butter the year around and avoid selling at low prices or ever being out of butter ourselves. When butter advances in price in the Fall or Winter months, as it always does up here, we then take this butter from the brine and take off the cloths and rework it into any desired shape for market. By so doing we always get from 20 to 40 cents per pound for all our butter, and it has been very many years since I sold a pound of butter from our farm dairy for less than 20 cents per pound. The dairy business can be managed as above outlined far easier in the South than we can do it here in the North.—HENRY TALCOTT, Jefferson, O.

The Condensed Milk Monopoly.

I. C. Libby, President of the Aroostook Condensed Milk Company, says: "At the present time the condensed milk of this country is controlled by a monopoly, there being but 13 condensed milk factories on this continent, six of which are owned and controlled by the New York Condensed Milk Company, a close corporation having less than 30 stockholders, who have recently been offered, we hear, \$15,000,000 for their six factories and the good will of the business by an English syndicate. Four of the above company's factories are located in the State of New York and two in Illinois. These six factories supply over half the condensed milk used in the United States, the balance being largely imported."

He thinks that a co-operative factory in Maine could pay 12 per cent. to its stockholders, and he "would guarantee each farmer more than six cents per quart for the milk, if prices are sustained." Eight thousand dollars was subscribed by a few of the citizens of Winthrop in less than 15 minutes, the other night, for the purpose of starting a condensed milk factory, and citizens of Readfield have promised \$5,000.

Butter Fat Value of Various Foods.

In the annual report of the Cornell (N. Y.) Station, is given a list of fatty foods and the quantity of fats contained in them, as follows:

Dry Substance of—	Fat Contained, Per cent.
Brewers' grain	7.36
Red clover hay	3.22
Gluten meal	11.16
Cottonseed meal	9.40
Cornmeal	3.93
Ship stuff	4.50
Ensilage	2.97

The gluten meal is obtained from the glucose factories, and is the substance left after the starch has been extracted from the cornmeal by maceration.

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No farmer or farmer's son should be without this watch, which keeps the time so accurately that it needs to be compared with a regular only once in many months. We have contracted for a large number of these watches, and to make them move quickly we have determined to furnish a chain with each watch. These chains will not be sold separately. They are made of nickel-plated steel and are ornamented with a charm. Thousands of farmers will, of course, wish one of these watches, and our immense supply will probably be exhausted within a few months, so club-raisers and purchasers should allow no time to pass before they try to get one for a club or for cash.

For the present we offer this watch and chain for a club of 10 subscribers and \$2.50 added money—\$12.50 altogether—or we will send both watch and chain (without the paper) to any address by insured mail for \$5.00. With the paper, one year, \$6.25.

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THE ORCHARD.

Cullings.

The Massachusetts Legislature will probably pass a bill ordering all wild cherry trees to be cut down except where the owners agree to keep them clear of caterpillars and black knot.

The large, handsome, yellow Elberta peach, which has been such a favorite in Georgia and other Southern States, has been found to do well as far north as Ohio. It ripens in northern Ohio during the last half of September.

It is a profitable policy to arrange one's orchard so as to, as far as possible, have one's labor come in succession; that is, have berries and other small fruits given employment in the early part of the season while the larger fruit is coming on.

The best authorities advise against planting plum orchards in localities where old trees are infested with black-knot, and this means, at present, that there are few safe places for this fruit. The only satisfactory resource is to cut and burn the knots. Nor should it be forgotten that several kinds of wild plum and cherry trees are likewise attacked, and these, as well as those of the orchard, need the knife, or the axe and fire.

Brains tell as well on the wornout lands of Massachusetts as elsewhere. At a recent meeting of the Massachusetts Horticultural Society E. W. Wood related how he bought a cheap farm and planted 20 acres of it in an orchard. He raised last year 20 tons of grapes and 1,500 barrels of apples, for which he received \$4,000. His farm is now held at \$20,000. Without the orchard it would not bring more than \$6,000.

Irving D. Cook, of Batavia, N. Y., tells some very pleasant stories of the success of the orchardists in his neighborhood with dwarf pears, mainly of the Duchesse D'Angouleme variety. Off one orchard of 8½ acres the sales last year were over \$1,700. Off another of 2½ acres the sales last year were \$600, and the aggregate for the past six years was \$4,002. Trees planted 30 years ago produced a larger crop last year than ever. Blight has never caused the loss of a single tree.

The best way to plant peach pits is to get them early in the Fall and plant in rows three and one-half feet apart. Then throw a ridge over the row, and in the Spring as soon as the pits break the shell—about April 1—take a hoe and dig this ridge to a level, leaving the pits three or four inches deep. You can easily examine and see when the pits are going to burst, then hoe off the ridge above them. Many a man can plant trees by his own labor if he is not able to buy them, and can obtain any seeds he wishes and raise any kind he wants.

New Bark in Trees.

"It is not a new fact, but yet a remarkable one," says Meehan in his monthly for March, "that if a fruit tree, apple, pear, or cherry, be stripped entirely of its bark in the second week in June, a new surface of bark will immediately take the place of the older one. It is believed that the chief growth of deciduous trees in our part of the world takes place at Midsummer."



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INSECTICIDES AND FUNGICIDES.

Practical Directions for Making and Applying Them—Their Harmlessness to Human Beings.

Farmers' Bulletin No. 7, recently issued by the United States Agricultural Department, gives some very timely and practical directions for making and applying remedies against insect and fungous pests:

INSECTICIDES USED IN THE FORM OF A SPRAY.

Kerosene emulsion.—This insecticide acts by contact and is applicable to all non-masticating insects (sucking insects, such as the true bugs, and especially plant-lice and scale-insects), and also to many of the mandibulate or masticating insects, such as the apple worm or plum curculio, when the use of arsenites is not advisable. Kerosene emulsion may be made by means of various emulsifying agents, but the most satisfactory substances—and those most available to the average farmer and fruit-grower—are milk and soap. In each of these cases the amount of emulsifying agent should be one-half the quantity of kerosene.

One of the most satisfactory formulas is as follows:

	Per cent.
Kerosene.....	3
Common soap or whale-oil soap, pounds.....	67
Water.....	33

Heat the solution of soap and add it boiling hot to the kerosene. Churn the mixture by means of a force pump and spray nozzle for five or 10 minutes. The emulsion, if perfect, forms a cream which thickens upon cooling and should adhere without oiliness to the surface of the glass. If the water from the soil is hard, or has a large percentage of lime, add a little lye or bicarbonate of soda, or else use rainwater. For use against scale-insects dilute one part of the emulsion with nine parts of cold water. For most other insects dilute one part of the emulsion with 15 parts of water. For soft insects like plant-lice the dilution may be carried to from 20 to 25 parts of water.

The milk emulsion is produced by the same methods as the above.

The resin washes.—These insecticides act by contact, and also (in the case of scale-insects) by forming an impervious coating which effectually smothers the insects treated. These resin washes vary in efficacy according to the insect treated. Experience has shown that the best formula for the red scale (*Aspidiotus aurantii* Maskell) and its yellow variety (*A. citrinus* Coquillett) is as follows:

Resin.....	18 pounds.
Caustic soda (70 per cent. strength).....	5 pounds.
Fish oil.....	24 pints.
Water to make.....	100 gallons.

The necessary ingredients are placed in a kettle and a sufficient quantity of cold water added to cover them. They are then boiled until dissolved, being occasionally stirred in the meantime, and after the materials are dissolved the boiling should be continued for about an hour, and a considerable degree of

heat should be employed so as to keep the preparation in a brisk state of ebullition, cold water being added in small quantities whenever there are indications of the preparation boiling over. Too much cold water, however, should not be added at one time, or the boiling process will be arrested and thereby delayed; but by a little practice the operator will learn how much water to add so as to keep the preparation boiling actively. Stirring the preparation is quite unnecessary during this stage of the work. When boiled sufficiently it will assimilate perfectly with water, and should then be diluted with the proper quantity of cold water, adding it slowly at first and stirring occasionally during the process. The undiluted preparation is pale yellowish in color, but by the addition of water it becomes a very dark brown. Before being sprayed on the trees it should be strained through a fine wire sieve, or through a piece of Swiss muslin, and this is usually accomplished when pouring the liquid into the spraying tank by means of a strainer placed over the opening through which the preparation is introduced into the tank.

The preparing of this compound will be greatly accelerated if the resin and caustic soda are first pulverized before being placed in the boiler, but this is quite a difficult task to perform. Both of these substances are put up in large cakes for the wholesale trade, the resin being in wooden barrels, each barrel containing a single cake, weighing about 375 pounds, while the caustic soda is put in iron drums containing a single cake each, weighing about 800 pounds. The soda is the most difficult to dissolve, but this could, doubtless, be obviated by first dissolving it in cold water, and then using the solution as required. This insecticide may be applied at any time during the growing season.

A stronger wash is required for the San José scale (*Aspidiotus perniciosus* Comstock), and the following formula gives the best results:

Resin.....	30 pounds.
Caustic soda (70 per cent.).....	9 pounds.
Fish oil.....	44 pints.
Water enough to make.....	100 gallons.

Place all the ingredients in a kettle and cover with water to a depth of four or five inches; boil briskly for about two hours, or until the compound can be perfectly dissolved with water. When this stage is reached the kettle should be filled up with water, care being taken not to chill the wash by adding large quantities of cold water at once. It may be thus diluted to about 40 gallons, the additional water being added from time to time as it is used.

This preparation should only be applied during Winter or during the dormant period; applied in the growing season, it will cause the loss of foliage and fruit.

In the application of both these washes a very fine spray is not essential, as the object is not simply to wet the tree, but to thoroughly coat it over with the compound, and this can be best accomplished by the use of a rather coarse spray, which can be thrown upon the tree with considerable force.

THE ARSENITES: LONDON PURPLE, PARIS GREEN, AND WHITE ARSENIC.

These poisons are of the greatest service

against all masticating insects, as larvae and beetles, and they furnish the most satisfactory means of controlling most leaf-feeders, and the best wholesale remedy against the codling moth. Caution must be used in applying them, on account of the liability of burning or scalding the foliage.

The poisons should be thoroughly mixed with water at the rate of from one pound to 100 to 250 gallons of water, and applied with a force pump and spray nozzle. In preparing the wash, it will be best to first mix the poison with a small quantity of water, making a thick batter, and then dilute the latter and add to the reservoir or spray tank, mixing the whole thoroughly. When freshly mixed, either London purple or Paris green may be applied to apple, plum, and other fruit trees, except the peach, at the rate of one pound to 150 to 200 gallons, the latter amount being recommended for the plum, which is somewhat more susceptible to scalding than the apple. White arsenic does little, if any, injury at the rate of one pound to 50 gallons of water when freshly mixed. As shown by Mr. Gillette, however, when allowed to remain for some time (two weeks or more) in water, the white arsenic acts with wonderful energy, scalding when used at the rate of one pound to 100 gallons from 10 to 90 per cent. of the foliage; the action of the other arsenites remains practically the same, with perhaps a slight increase in the case of London purple.

With the peach these poisons, when applied alone, even at the rate of one pound to 300 or more gallons of water, are injurious in their action, causing the loss of much of the foliage.

By the addition of a little lime to the mixture, London purple and Paris green may be safely applied, at the rate of one pound to 125 to 150 gallons of water, to the peach or the tenderest foliage, or in much greater strength to strong foliage, such as that of the apple or most shade trees.

Whenever, therefore, the application is made to tender foliage or when the treating with a strong mixture is desirable, lime water, milky, but not heavy enough to close the nozzle, should be added at the rate of about two gallons to 100 gallons of the poison.

With the apple, in spraying for the codling moth, at least two applications should be made, the first after the falling of the blossoms or when the apples are about the size of peas, and the second a week or 10 days later. The first brood of the codling moth lays its eggs in the flower end of the young apple, and the worms upon hatching gnaw their way into the interior of the apple, and on sprayed trees get poisoned in so doing, an infinitesimal amount being sufficient to destroy so minute a worm. The second spraying is for the purpose of destroying larvae hatching from eggs which may be laid after the first spraying, as the arsenic is gradually washed off by rains.

For the plum curculio on the plum, cherry, peach, etc., two or three applications should be made during the latter part of May and the first half of June. The poison in this case is applied for the purpose of destroying the adult curculios which hibernate and gnaw into the young growth of the trees and even into the hard young fruit before laying their eggs. The eggs are pushed under the

skin, so that the larvae are not ordinarily affected by the poisoning.

In the case of most leaf-feeding insects one should spray on the first indication of their presence.

Caution necessary in the use of these insecticides.—The relative susceptibility of apple, plum, and peach has just been indicated under the head of arsenical poisons, and these remarks apply equally well to the use of the kerosene emulsions. In the case of other plants thorough experiments are still necessary, and all insecticides should be used in comparatively high dilution. Tender-leaved plants, such as melons and cucumbers, are more readily injured; while plants with firmer and smooth leaves, like the orange, are least affected. Annual plants, such as cabbages and other garden vegetables, are more susceptible than perennials, but in the case of root crops, such as beets, turnips, radishes, and potatoes, there is not the same need of caution as to damage to foliage. Damage to foliage is not shown at once, and in case of rain following an application another application should not be made for several days. Fruit trees should not be sprayed with arsenical poisons while in blossom, as there is no advantage in doing so, and honeybees are reported to be at times killed by working in the sprayed blossoms.

SPRAYING FROM THE HYGIENIC STAND-POINT.

The only insecticide sprays which are at all dangerous to use are the arsenic compounds, and even here the danger is greatly exaggerated by those not conversant with the facts. Paris green and London purple have for many years been extensively used in this country as insecticides, and a case of fatal poisoning from their use as such has never been substantiated. The only danger lies in having the poison about a farm or plantation in bulk. In the early days of the use of Paris green against the Colorado potato-beetle a great deal of opposition was developed on account of the supposed danger, and only recently the sale of American apples in England has received a set-back owing to the supposed danger of arsenic poison from their consumption. The question as to whether arsenic may be absorbed by the growing plant in any degree was long ago settled in the negative by the best chemists in the country. Dr. William McMurtrie, formerly chemist of this Department, in 1878 showed that even where the Paris green was applied to the soil in such quantities as to cause the wilting or death of the plants, the most rigorous chemical analysis could detect no arsenic in the composition of the plants themselves. Other experiments in a similar direction by Prof. R. C. Kedzie, of the Michigan Agricultural College, confirmed these conclusions. It is safe, then, to assume that the only way in which fruit or vegetables can convey the poison to the consumer will be through the very minute quantity of arsenic left upon the edible part of the plant. Against the possibility of such an effect the following facts may be argued:

(1) It would seem at first glance that the use of an arsenical poison upon a plant like the cabbage would be very unsafe to recommend, yet Paris green and London purple are used upon this crop to kill the several species of leaf-eating worms which are so destructive to it, and an absolute absence of all danger where the application has been properly made has been recently shown by Prof. Gillette, of the Agricultural Experiment Station of Colorado, by the following *reductio ad absurdum*:

... Where the green is dusted from a bag in the proportion of one ounce of the poison to 100 ounces of flour and just enough applied to each head to make a slight show of dust on the leaves, say, for 25 heads of cabbage, one ounce of mixture, the worms will all be killed in the course of two or three days, while the average amount of poison on each head will be about one-seventh of a grain. Fully one-half of the powder will all on the outside leaves and on the ground, and thus an individual will have to eat about 25 heads of cabbage in order to consume a poisonous dose of arsenic, even if the balance of the poison remained after cooking.

(2) In case of spraying apple orchards for the codling moth there is scarcely a possibility of injury to the consumer of the fruit. A mathematical computation will quickly show that where the poison is used in the proportion of one pound to 200 gallons of water (the customary proportion) the arsenic will be so distributed through the water that it will be impossible for a sufficient quantity to collect upon any given apple to have the slightest injurious effect upon the consumer. In

fact, such a computation will indicate beyond all peradventure that it will be necessary for an individual to consume several barrels of apples at a single meal in order to absorb a fatal dose even should this enormous meal be eaten soon after the spraying, and should the consumer eat the entire fruit.

(3) As a matter of fact, careful microscopic examinations have been made of the fruit and foliage of sprayed trees at various intervals after spraying which indicate that after the water has evaporated the poison soon entirely disappears either through being blown off by the wind or washed off by rains, so that after 15 days hardly the minutest trace can be discovered.

(4) In the line of actual experiment as indicating the very finely-divided state of the poison and the extremely small quantity which is used to each tree Prof. A. J. Cook, of the Michigan Agricultural College, has conducted some striking experiments. A thick paper was placed under an apple tree which was thoroughly sprayed on a windy day, so that the dripping was rather excessive. After the dripping had ceased, the paper (covering a space of 72 square feet) was analyzed and four-tenths of a grain of arsenic was found. Another tree was thoroughly sprayed and subsequently the grass and clover beneath it was carefully cut and fed to a horse without the slightest sign of injury.

The whole matter was well summed up by Prof. Riley in a recent lecture before the Lowell Institute, in Boston, in the following words:

The latest sensational report of this kind was the rumor emanating from London, within the last week, that American apples were being rejected for fear that their use was unsafe. If we consider for a moment how minute is the quantity of arsenic that can under the most favorable circumstances remain in the calyx of an apple, we shall see at once how absurd this fear is; for even if the poison that originally killed the worm remained intact, one would have to eat many barrels of apples at a meal to get a sufficient quantity to poison a human being. Moreover, much of the poison is washed off by rain, and some of it is thrown off by natural growth of the apple, so that there is, as a rule, nothing left of the poison in the garnered fruit. Add to this the further fact that few people eat apple raw without casting away the calyx and stem end, the only parts where any poison could, under the most favorable circumstances, remain, and that these parts are always cut away in cooking, and we see how utterly groundless are any fears of injury and how useless any prohibitive measures against American apples on this score.

Spraying.

Do not spray the fruit trees until after the blossoms have fallen. Apple trees should be sprayed for the codling moth about a week after the blossoms commence to fall, or when the fruits are about the size of hazel nuts. This is the right time to do the most good and no harm. The second spraying is most beneficial if done about 10 days after the first. Peach, cherry, and plum trees should also be sprayed only after the blossoms have fallen, and usually not until the latter part of May or early in June, the curculio in the adult form being killed then. Neither for the codling moth nor for the curculio is it of any use to spray earlier, and spraying during the time of blossoming kills the farmers' and fruit-growers' friends, the honey-bees, while they are fertilizing the blossoms, or, in other words, doing their share to insure a large crop of finely-developed fruit.

An Exciting Race.

Mrs. Hooligan—Phwa's come over yez, Dinnis, ter make ye wurrick so fast-loike?

Mr. Hooligan (painting his goat-coop)—Whisht! Stan' out o' me way, an' don't shtop me! Oi'm shtrivin' t' git t'rough before me paint gives out.—Puck.

Some humane person has suggested that it is much better to shear geese than to pick them. This seems reasonable.

THE GARDEN.

Pluckings.

Celery is a profitable crop at from 10 cents a dozen upward.

Successful experiments have been made in forcing early vegetables by the use of electricity.

There is a way of making each cabbage stalk do double duty in providing material for sour-kraut and cold slaw.

Eastern truckers talk with easy confidence about raising 500 bushels of tomatoes to the acre, and getting 20 cents a bushel for them at the canneries.

Potatoes pay the largest dividends of any vegetable, even when there is not more than 50 bushels to the acre. The man who does not raise more than 100 bushels to the acre ought to be ashamed of himself.

It is not best to follow broken sod with an onion crop. There will be bad spots everywhere, which cannot be prevented. A crop of corn, potatoes, or carrots should always precede one of onions.

The best time to think about and prepare for planting potatoes is in the seasons when the price is low. Then everybody is disgusted with the potato business, and is going out of it. The next season the price of potatoes is pretty sure to be high.

The buds on the raspberry canes and grapevines should be tied up before getting too large. If this is neglected, a frost or cold wind may kill them. If raised in good season they will make a slower growth, but one likely to be more fruitful.

Half a dozen well-established rhubarb plants, if properly attended to, will supply enough stalks for a family. This plant is the best substitute the farmer has for apples. For its proper cultivation high manuring is necessary, and the earth around it should be kept in a loose condition.

The Agricultural Department has lately discovered an additional insect enemy of the potato. This insect, known as the potato tuber moth, has been working great harm in Australia, and has now appeared in California. It is hoped to stamp this pest out by destroying infected potatoes, and, if necessary, by suspending potato culture for a year or so where the moth has appeared.

A good fertilizer for pot plants is made as follows: To a gallon of bone dust add a gallon of dry, fresh wood ashes and half a gallon measure full of guano, and about the same quantity of freshly-slaked lime as guano. Mix the whole well together, and add an equal bulk of dry, sandy soil, after which the whole may be sifted or screened, and then preserved in a tub in a dry place. This preparation must be used dry, in the shape of a top-dressing, a very slight sprinkling being sufficient.

Europe gardeners are very proud of their celery, and take no end of pains with it. Their great effort is to get healthy plants to start with. One enthusiastic English amateur puts his plants as soon as they can be safely handled each into a small pot, so as to

get them stocky and well established before setting them in the open ground. Large numbers of these small growers, who have only room for two or three dozen plants, will have these plants, which they first raise in boxes in the windows, all ready to repot and set out in August. It is amazing what enormously large and succulent stalks of celery can be raised by a little extra care in this way.

Every farmer should have an asparagus bed. It involves so little trouble, and a small one will supply the family. Sometimes an otherwise useless piece of ground will make a fine asparagus bed. A good preparation is to spade trenches three and a half feet apart and about two feet deep. In the bottom pack fine horse manure six or eight inches deep, and then some good soil. The plants should be about 20 inches apart and four inches under ground. They can be obtained from any seedsman; two-year-old plants are best. They need no care except covering with manure in the Fall, and sowing with salt in Spring to kill weeds. A bed 10 by 30 feet will supply a family with abundance every day up to the 1st of July.

Spanish salsify, a product of southern Europe, bids fair to become of considerable value, if properly introduced into this country. The root very much resembles that of the common salsify, but is of a lighter color and is considerably longer. When carefully cooked and prepared, it affords an agreeable taste, somewhat like that of the salsify and parsnip. Aside from affording a variety in the garden, it is larger in size and productiveness than the common salsify, and about twice the crop can be raised upon a given area that can be obtained from salsify. The one disadvantage of the plant is its prickly leaves, which make it hard to handle. But, considering the fact that the seeds of this plant are much easier to handle and sow than those of the ordinary salsify, it is well worth an introduction into American gardens.

How to Manage the Blackberry.

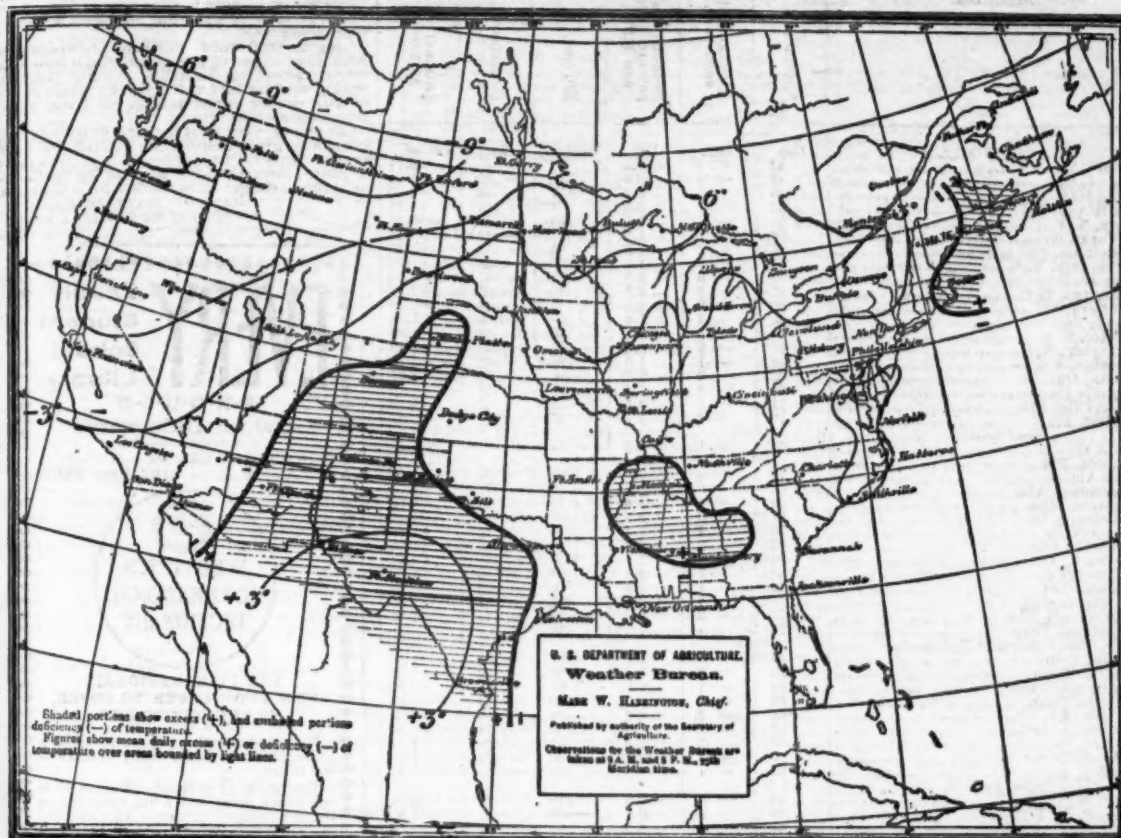
EDITOR AMERICAN FARMER: Those that are dead should now be cut out and burned. If not cut back early last Fall, and the blackberry stalks are from six to seven feet in height, they should be headed back to about five feet and tied to a single wire which has been tightly stretched and stapled to the tops of four-foot stakes placed about 24 feet apart. The stakes should be five and a half feet in length before being driven. To remove the old canes, a very sharp, crescent-shaped steel hook, three inches in length, attached to a small hoe handle, is a good tool for the purpose. With this they can be cut off and pulled out.

For picking up and holding the canes against the wire while tying the bearing canes, saw off the small end of a broom-handle to a length of 14 inches. Now cut off a piece of No. 9 fence, or telegraph wire, three inches in length and bend it like a letter N. With a staple, fasten this to the small, rounded end of the handle. With it you pick up a cane, and pull it to you or push it from as you like. The blackberry-grower will find the latter a very convenient, pain-saving device.—J. W. K., Jr.

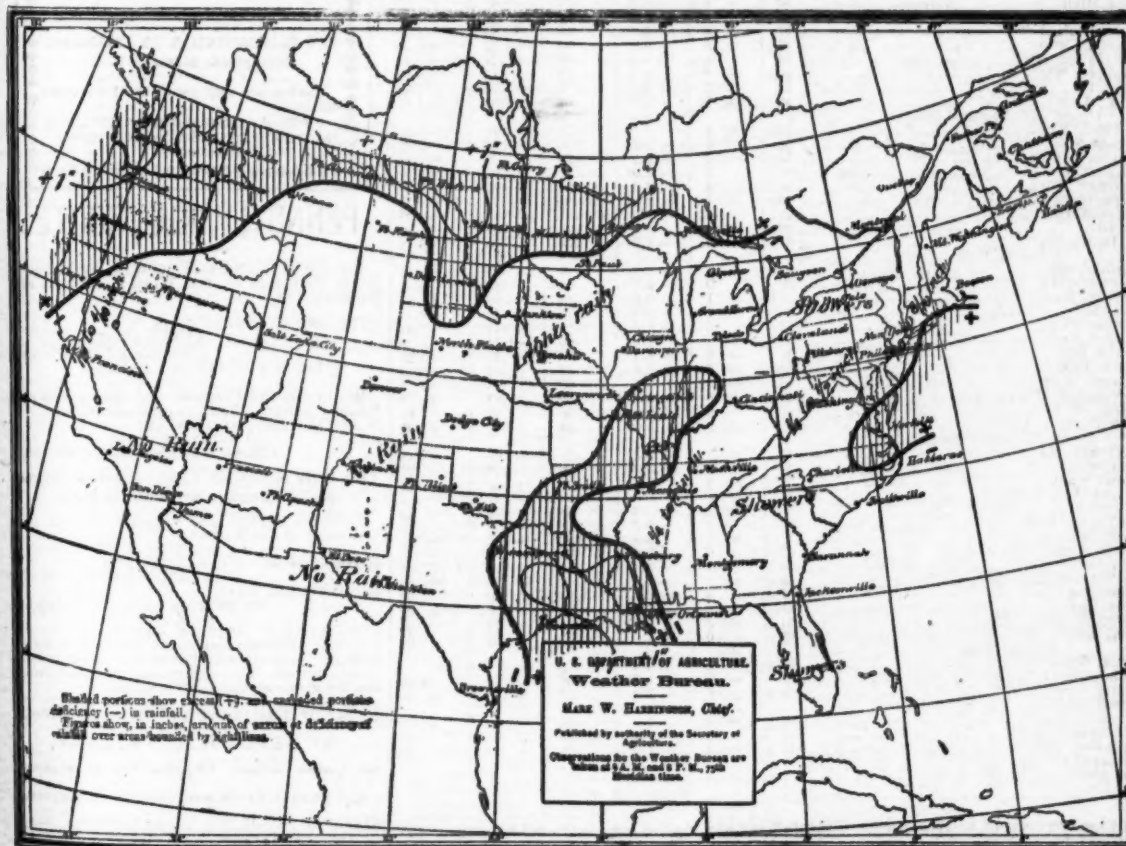
U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

No. 8.—Weather-Crop Bulletin for the Week Ending April 29, 1892.

Temperature Departures for the Week Ending April 29, 1892.



Rainfall Departures for the Week Ending April 29, 1892.



U. S. DEPARTMENT OF AGRICULTURE,
WEATHER BUREAU,
WASHINGTON, D. C., April 30, 1892.

TEMPERATURE.

The week has been slightly cooler than usual over the greater portion of all agricultural districts east of the Rocky Mountains, except over a small area of the central portion of the cotton belt, in western Texas and the southern half of the Rocky Mountain districts, where slight excesses in temperature are reported. The deficiency in temperature, however, amounts to less than 3° per day in all districts south of the Lake region and Iowa; but the week has been cooler over the greater portion of the Spring-wheat region, and thence westward to the Pacific Coast, where the daily temperature ranged from 6° to 9° below the normal.

The season continues late in all districts, due to the continued cool weather of April, the last three weeks of which show abnormally low temperatures over the principal agricultural districts, but the departures for the current week are less, and the indications are that the weather conditions will be more favorable for growing crops in the central valleys during the succeeding week.

PRECIPITATION.

During the past week the rainfall has been greater than usual in the lower Ohio, central and lower Mississippi valleys, and in eastern Texas, the rainfall being greatest over Louisiana and eastern Texas. The rainfall was also in excess from Lake Superior westward to the Pacific Coast, including a portion of South Dakota, the rainfall amounting to about one inch more than the normal over North Dakota and northern Minnesota. Well-distributed rains have prevailed in all other districts, except in the southern portion of the South Atlantic State, where drouth conditions continue. The rainfall was very light in southern Kansas, and no rain fell in eastern Colorado, Arizona, or southern California.

The rainfall for the season is generally in excess throughout the central valleys and Northwest, including the greater portion of the cotton region and all of the grain-growing States. In southern Texas the seasonal rainfall amounts to less than 50 per cent. of the normal; in northern Florida only 15 per cent. of the normal rainfall has occurred since the 1st of March, while in New England and New York from 50 to 70 per cent. of the normal rainfall has occurred. On the Pacific Coast the rainfall since the 1st of March has ranged from 80 to 90 per cent. of the usual amount, except in Oregon and east Washington, where slight excesses are reported.

GENERAL REMARKS.

New England—Temperature and precipitation below, sunshine above normal; farm work generally much advanced, but seed does not grow and grass starts slowly; warm rain badly needed; fruit slightly injured in central sections by frost.

New York—Temperature and rainfall below and sunshine above normal; severe frosts and drouth slightly damaged grass and grains and checked all growth, but no further damage to fruit; corn planting begun in south; little work done in north.

New Jersey—Temperature, rainfall, and sunshine below normal; all growth greatly retarded by continued cold; very favorable for farm work; oats and potatoes all in ground; now ready for planting corn; fruit full bloom, but not profuse.

Pennsylvania—Continued cool weather checks growth of all vegetation, especially in the northern Counties; wheat and grass improving slowly; oat seeding nearly finished; preparing for corn and potato planting; sunshine and warmth needed.

Maryland—Cold rains early in week injured wheat and oats on lowlands and early vegetables; last of week fair and warm, and fruit, grain, grass, and vegetables improved in all sections; warm, sunny weather needed.

Virginia—Temperature about three degrees daily below normal; precipitation generally slightly below, except in extreme southwest portion; sunshine about average; conditions generally very favorable, except too cool; corn planting in progress and oats mostly seeded, but season behind.

North Carolina—Weather has been slightly better with more sunshine, but is still too damp and cold, preventing seeds from sprouting; forests green except in western portion; warmth and sunshine greatly needed.

South Carolina—The weather conditions were generally beneficial to crops, though nights were too cool for young cotton, and there was not enough moisture to germinate seed properly; the weather was favorable for other crops; wheat and barley heading out and very fine.

Georgia—Drouth prevails in southern section, and rain is deficient in all sections except the northeast; there has been an average amount of sunshine, but the temperature continues low, with chilly nights; cotton planting is delayed on account of drouth; oats and corn suffer.

ing; fruit promises well in central and western sections.

Florida—Showers occurred over greater portion of State during the week, greatly relieving drouth conditions that have prevailed for past three months; drouth continues in some sections; the week was slightly cooler than usual, but had an average amount of sunshine.

Alabama—Temperature and rainfall slightly above average; sunshine about average; crops needing rain, particularly oats; stand of cotton not good in southeast portion.

Mississippi—Temperature and sunshine below and rainfall above normal; southern part of State not recovered from very heavy local rains of last week and much replanting necessary; northern part in better shape; staple crops late, especially in southern and delta sections.

Louisiana—Rainfall above normal and beneficial to uplands; a few sunshiny days will offset the evil effect to lowlands; farm work was interrupted and fields are becoming grassy; young corn looks well, though cut by worms in some sections; cotton and late rice planting interrupted; plant cane splendid; stubble improving.

Texas—The drouth is retarding work in southwest Texas and is injuring cotton and corn; weather favorable and work progressing rapidly over other portions, where corn is being plowed and cotton planting completed; wheat is very promising in many sections.

Arkansas—Temperature slightly below and sunshine about average; precipitation deficient in eastern, excessive in western portion; farm work being pushed with energy; nearly all corn planted, inferior stand; cotton planting general, some coming up; wheat, oats, and fruit good.

Tennessee—Conditions favorable for farm work; much corn planted during week; cotton planting commenced and progressing rapidly; peaches less injured than previously reported; tobacco plants plentiful; wheat, pastures, and gardens improving; rapidly; outlook encouraging.

Kentucky—Temperature deficient; rainfall nearly normal; sunshine in excess; conditions greatly improved; wheat and oats much better; corn planting under full headway; tobacco plants plenty but small; hemp sowing begun.

Missouri—Rainfall about average; temperature average in southern and deficient in northern half; oats nearly sown; potatoes nearly planted; fruit prospects good; meadows, pastures, and stock looking well; little corn planted, too wet; warm, sunshiny weather much needed; roads improving.

Illinois—Temperature below normal; light frost, no injury; rainfall above normal in central and extreme southern portions, elsewhere below; wheat good and well up, but some killed on bottom lands; oat seeding nearing completion; corn plowing in wet portions generally retarded.

Indiana—Excessive rainfall; temperature and sunshine deficient; wheat, clover, and grass continue in fine condition, oats less so; not all sown yet; much plowing done during early part of week; ground too wet after Thursday morning.

West Virginia—Rainfall below average; temperature about normal and average amount of sunshine; rapid development in growth of wheat, oats, grass, rye, and vegetation of all kinds; farm work progressing rapidly; early potato planting nearly completed.

Ohio—Rainfall and temperature below average; sunshine normal; wheat and grass suffering from drouth in northern, but advanced growth over middle and southern sections; oats seeding nearly completed; potatoes planted extensively, and some corn; apples promise good yield; farm work advanced rapidly; warm rains needed.

Michigan—Temperature below the average, rainfall slightly above, and sunshine normal; most interior counties report a fairly good week, owing to rains, while Counties bordering on the lakes suffered from unfavorable conditions.

Wisconsin—Unfavorable conditions prevailed during the week; high north winds and freezing temperature have damaged wheat and rye, and permitted little growth of meadows or germination of seed; some tobacco plants up.

Minnesota—Seeding is practically completed in central and southern portions of State, but was greatly retarded by cold, wet weather in northwest portion. Some wheat up in southern portion. Warm, sunshiny weather is needed.

Iowa—Weather favorable for plowing; some complaint of seed rotting; season about 15 days late; general frost Friday, fruit uninjured. North Dakota—Cool, wet, and cloudy weather have retarded all work since Monday; rain beneficial to grain sown; about one-third seeding done.

South Dakota—Temperature and sunshine below, rainfall average; wheat about three-fourths, and oats half sown; most wheat sprouted with excellent stand and color, some waving; Spring rye mostly sown, Winter waving; plowing for corn and general garden work; warm sunshine needed.

Nebraska—Week cold and cloudy, with generally less than normal rainfall; more favorable for farm work than preceding two weeks; seeding about complete; plowing for corn general and very little planting reported in southern Counties.

Kansas—Rainfall excessive in Leavenworth and northern Counties, elsewhere deficient, beneficial to all crops; temperature and sunshine deficient, injurious to all crops; oats growing well; corn planting vigorously pushed; apples, pears, and plums in full bloom.

Oklahoma—Temperature and sunshine below the average, precipitation about the average; all crops slightly injured by frost and hail, and the southeast and southern portions by excessive rains; condition of crops improved over last report; warm, sunshiny weather needed.

Montana—Precipitation below in western and above normal in eastern portion; temperature below normal; vegetation almost at a standstill on account of cold weather.

NORMAL TEMPERATURE AND RAINFALL, WITH DEPARTURES THEREFROM, FOR THE WEEK ENDING APRIL 29, 1892.

DISTRICTS.	TEMPERATURE.			RAINFALL (INCHES).		
	Past seven days.	March 1 to date.	Seasonal departure (average daily).	Past seven days.	March 1 to date.	Seasonal departure.
	Normal.	Average daily departure.	Normal.	Departure.	Seasonal departure.	Normal.
Atlantic Coast.						
Eastport, Me.	48	+1	+1.6	.82	-.02	-3.14
Portland, Me.	48	+2	+0.5	.70	-.39	-2.09
Boston, Mass.	49	0	+0.8	.77	-.44	-3.00
Block Island, N. I.	47	-1	+0.7	.74	+.04	-.71
Albany, N. Y.	51	-4	+1.6	.68	-.53	-3.26
New York City.	53	-1	+1.7	.77	-.49	-.48
Philadelphia, Pa.	51	-3	+1.8	.65	-.19	+.40
Atlantic City, N. J.	51	-3	+1.8	.70	-.08	-.38
Baltimore, Md.	57	-3	+3.0	.77	-.47	-3.09
Washington, D. C.	57	-3	+2.5	.73	-.05	-2.97
Lynchburg, Va.	60	-3	+2.5	.76	-.49	-.48
Norfolk, Va.	60	-3	+1.6	.90	+1.05	+1.56
Charlotte, N. C.	63	-3	+2.3	.90	-.54	-.68
Wilmington, N. C.	63	-3	+2.3	.70	-.56	-3.48
Charleston, S. C.	63	-3	+2.7	.80	-.89	-2.97
Augusta, Ga.	63	-3	+1.5	.77	-.77	-3.10
Savannah, Ga.	69	-1	+0.7	.77	-.77	-5.40
Jacksonville, Fla.	71	-1	+0.7	.77	-.77	-5.40
Key West, Fla.	77	0	+1.4	.42	+.18	+.47
Gulf States.						
Atlanta, Ga.	64	+1	-3.1	.84	-.70	+.56
Pensacola, Fla.	70	-3	.....	.98	-.40	-.02
Mobile, Ala.	69	0	-0.9	1.12	-.57	-1.74
Montgomery, Ala.	69	-3	-3.0	1.40	+1.34	-1.09
Vicksburg, Miss.	69	-3	-2.3	1.25	+1.31	-2.40
New Orleans, La.	71	-2	-4.1	1.23	+.49	-1.50
Shreveport, La.	65	-2	-2.2	1.31	+1.31	-.56
Fort Smith, Ark.	66	-2	-3.1	1.19	-.98	+.42
Little Rock, Ark.	66	-2	-2.1	1.14	+1.30	-1.09
Palestine, Tex.	73	+1	-1.5	.76	+.13	-3.52
Galveston, Tex.	71	+4	+0.4	.77	-.61	-3.58
San Antonio, Tex.	73	+3	-0.6	.52	-.44	-1.82
Corpus Christi, Tex.	73	.....	.....	.42	.....	.....
Brownsville, Tex.	73	.....	.....	.....	.....	.....
Ohio Valley and Tennessee.						
Memphis, Tenn.	65	+1	-2.2	1.21	-.89	+1.20
Nashville, Tenn.	63	0	-2.8	1.08	-.10	+1.54
Chattanooga, Tenn.	64	-1	-2.1	1.05	-.31	+.80
Knoxville, Tenn.	63	-1	-2.8	1.10	-.34	-.63
Louisville, Ky.	61	-3	-2.8	.98	-.18	-2.38
Indianapolis, Ind.	66	-1	-1.9	.84	+.74	+.96
Cincinnati, Ohio.	56	-2	-2.8	.70	-.28	-1.14
Columbus, Ohio.	55	-2	-2.0	.86	-.79	-1.23
Pittsburg, Pa.	55	-1	-2.5	.63	-.62	-.35
Lake Region.						
Oswego, N. Y.	46	-4	-1.4	.49	-.45	-2.14
Rochester, N. Y.	46	-4	-1.1	.69	-.55	-1.87
Buffalo, N. Y.	46	-4	-0.6	.63	-.62	-3.30
Erie, Pa.	48	-2	-1.4	.70	-.59	-2.17
Cleveland, Ohio.	49	-2	-0.6	.61	-.23	+.03
Sandusky, Ohio.	50	-2	-0.6	.56	-.16	+2.00
Toledo, Ohio.	50	.....	.....	.....	.....	.....
Detroit, Mich.	50	-4	-0.2	.57	-.41	-.75
Pontiac, Mich.	45	-2	+0.8	.52	-.00	-1.67
Alpena, Mich.	41	-3	+1.2	.63	-.49	-1.60
Marquette, Mich.	41	-3	+1.2	.63	-.49	-1.60
Grand Haven, Mich.	48	-4	-1.1	.62	+.14	-.40
Milwaukee, Wis.	48	-2	-0.9	.69	-.17	-.97
Chicago, Ill.	49	-2	-2.7	.77	-.73	-1.49
Duluth, Minn.	42	-6	-1.6	.63	+1.04	+1.85
Upper Mississippi Valley.						
Saint Paul, Minn.	51	-7	-2.5	.63	-.46	-1.96
La Crosse, Wis.	52	-6	-1.7	.59	-.27	+.81
Dubuque, Iowa.	54	-4	-2.2	.80	-.75	-.24
Davenport, Iowa.	54	-3	-1.9	.77	-.60	-2.17
Des Moines, Iowa.	55	-3	-2.6	.86	-.80	-1.98
Keokuk, Iowa.	56	-1	-2.4	.80	-.70	-4.17
Springfield, Ill.	57	-2	-3.3	.91	+.15	+.41
Quincy, Ill.	62	0	-1.8	.91	+.67	-.04
Saint Louis, Mo.	61	-2	-3.0	.79	+.05	+0.26
Missouri Valley.						
Springfield, Mo.	51	-2	-3.4	1.19	-.23	+.50
Kansas City, Mo.	59	-0	-2.8	.83	-.65	-.35
Concordia, Kan.	57	-1	-2.0	.84	-.48	-.23
Omaha, Neb.	56	-1	-3.0	.79	-.49	-3.11
Yankton, S. Dak.	52	0	-1.0	.81	-.71	-2.42
Valentine, Neb.	51	+1	-4.0	.66	+1.14	-5.76
Huron, S. Dak.	50	-2	-2.1	.77	-.19	-3.09
Pierre, S. Dak.	52	-2	-2.0	.42	+.42	-2.17
Moorhead, Minn.	45	-3	+2.4	.49	+.93	-2.16
Saint Vincent, Minn.	42	-6	+2.0	.85	+.55	-.62
Bismarck, N. Dak.	47	-6	-0.6	.56	+1.28	-.96
Buford, Fort, N. Dak.	48	-9	0.0	.35	+2.01	-1.42
Rocky Mountain Slope.						
Aspen, Mont.	48	-11	-0.8	.21	+.06	-.42
Helena, Mont.	48	-8	-0.8	.28	-.16	-.77
Spokane, Wash.	52	-8	0.0	.28	+.40	+.86
Salt Lake City, Utah.	54	-5	-1.0	.53	-.27	-.12
Cheyenne, Wyo.	46	-1	-3.3	.38	-.39	-.13
North Platte, Neb.	51	0	-4.0	.63	-.19	-3.50
Denver, Colo.	51	+1	-3.0	.56	-.56	-.06
Montrose, Colo.	52	0	-2.0	.31	-.09	+.77
Pueblo, Colo.	54	+1	-3.4	.42	-.42	-.78
Dodge City, Kan.	58	-1	-5.0	.60	-.51	-.60
Abilene, Tex.	67	+4	-1.6	1.06	-.80	-1.52
El Paso, Tex.	68	+4	-1.2	.00	.00	-.28
Santa Fe, N. Mex.	61	+2	-1.3	.14	-.14	+.82
Tucson, Ariz.	69	0	-3.0	.01	-.01	-.00
Pacific Coast.						
Olympia, Wash.	51	-3	+0.5	.70	.....	.....
Portland, Ore.	55	-6	-1.3	.68	+1.23	-1.62
Roseburg, Ore.	54	-5	-1.3	.57	+.13	+.06
Red Bluff, Cal.	.....	.....	.....	.....	.....	.....
Sacramento, Cal.	61	-6	-1.9	.56	-.42	-1.76
San Francisco, Cal.	67	-5	-1.4	.39	-.05	-.49
Los Angeles, Cal.	61	-2	-1.6	.28	-.28	-.93
San Diego, Cal.	.....	.....	.....	.....	.....	.....
Yuma, Ariz.	.....	.....	.....	.....	.....	.....

NOTE.—The current temperature and rainfall for any station may be found by adding the departure to normal when plus (+), and subtracting when departure is minus (—).

Wyoming—Precipitation and temperature about normal; little sunshine; week fairly beneficial to crops.

Colorado—Frost, and high winds slightly damaged fruit and grain; ground is being dried rapidly by the wind; most crops are in; corn now being planted; pastures excellent.

Arizona—Temperature and rainfall below normal; weather generally unfavorable for hay and garden vegetables; grain doing fairly well but warmer weather needed.

Washington—West weather in west portion prevents ground drying; all vegetation retarded; sunshine badly needed; fruit doing fairly well in eastern portion; average week for grain, good stand and color but needs warmth; fruit doing well.

Oregon—Continued deficient temperature, with large excess of precipitation and little sunshine; wheat on lowlands slightly injured; Spring seeding late and delayed; severe storm on 24th caused slight damage to fruit; vegetation four weeks late.

California—Cool weather with frost retarded growth of grain and slightly injured fruit and grape prospects; haying begun in various parts of State; crop averages good in the north and light in the south; rains needed for late grains.

MARK W. HARRINGTON,
Chief of the Weather Bureau.

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THE MARKETS.

New York, Wednesday, April 27, 1892.

BUTTER.

State dairy, half-firkin tubs, new, fancy, per pound.....	30 1/2
State dairy, half-firkin tubs, new, choice, per pound.....	19 1/2
State dairy, half-firkin tubs, new, fair to good, per pound.....	18 1/2
State factory, half-firkin tubs, old, good, per pound.....	17 1/2
State factory, half-firkin tubs, fair, per pound.....	14 1/2
Eastern dairies entire, choice, per pound.....	17 1/2
Eastern dairies entire, fair to good, per pound.....	15 1/2
Eastern creamery, fancy, per pound.....	23 1/2
Eastern creamery, good to choice, per pound.....	20 1/2
Eastern creamery, fair to good, per pound.....	18 1/2
Pennsylvania creamery, fancy, per pound.....	20 1/2
Michigan creamery, fancy, per pound.....	20 1/2
Western creamery, new, fancy, per pound.....	23 1/2
Western creamery, new, good to choice, per pound.....	20 1/2
Western creamery, new, medium to good, per pound.....	18 1/2
Western creamery, old, per pound.....	18 1/2
Western dairy, new, choice, per pound.....	15 1/2
Western dairy, new, good, per pound.....	13 1/2
Western dairy, new, fair to good, per pound.....	12 1/2
Imitation creamery, fancy, per pound.....	18 1/2
Imitation creamery, good to choice, per pound.....	14 1/2
Imitation creamery, fair to good, per pound.....	13 1/2
Factory fresh, choice, per pound.....	15 1/2
Factory fresh, medium to good, per pound.....	13 1/2
June packed, per pound.....	15 1/2

BEANS AND PEAS.

Beans, marrow, choice, per barrel.....	\$3 00
Beans, marrow, poor to fair, per barrel.....	1 50
Beans, medium, choice, per barrel.....	1 50
Beans, pea, choice, per barrel.....	1 50
Beans, red kidney, choice, per barrel.....	2 00
Beans, red kidney, poor to fair, per barrel.....	1 50
Beans, white kidney, choice, per barrel.....	2 00
Lima beans, California, per 60 pounds.....	1 50
Green peas, barrels, per bushel.....	1 45

CHICKS.

State factory, new, fancy, white, per pound.....	10 1/2
State factory, new, fancy, colored, per pound.....	10 1/2
State factory, new, full cream, choice, per pound.....	9 1/2
State factory, new, full to prime, per pound.....	9 1/2
State factory, old, fancy, per pound.....	11 1/2
State factory, old, full cream, choice, per pound.....	11 1/2
State factory, old, fair to prime, per pound.....	10 1/2
State factory, part skims, choice, per pound.....	8 1/2
State factory, part skims, fair to good, per pound.....	6 1/2
State factory, full skims, per pound.....	3 1/2
Pennsylvania, skims, per pound.....	2 1/2

DRIED FRUITS AND NUTS.

Apples, evaporated, fancy, per pound.....	5 1/2
Apples, evaporated, choice, per pound.....	5 1/2
Apples, evaporated, ordinary to good, per pound.....	3 1/2
Apples, sun-dried, per pound.....	3 1/2
Raspberries, evaporated, per pound.....	14 1/2
Raspberries, sun-dried, per pound.....	13 1/2
Cherries, per pound.....	9 1/2
Blackberries, per pound.....	8 1/2
Huckleberries, per pound.....	8 1/2
Peaches, Delaware, peeled, fancy, per pound.....	15 1/2
Peaches, North Carolina, peeled, per pound.....	9 1/2
Peaches, California, unpeeled, per pound.....	6 1/2
Apricots, California, per pound.....	4 1/2
Peanuts, fancy, per pound.....	3 1/2
Peanuts, prime, per pound.....	3 1/2
Peanuts, farmers' grades, per pound.....	2 1/2
Peanuts, shelled, per pound.....	2 1/2
Peanuts, shelled, Spanish, per pound.....	4 1/2

EGGS.

Eastern, choice, per dozen.....	15 1/2
Western, choice, per dozen.....	15 1/2
Southern, choice, per dozen.....	14 1/2
Southern, new laid, fair to good, per dozen.....	13 1/2
Duck eggs, Maryland, per dozen.....	20 1/2
Duck eggs, Southern, per dozen.....	19 1/2
Duck eggs, Western, per dozen.....	18 1/2
Goose eggs, Western, per dozen.....	25 1/2
Goose eggs, Southern, per dozen.....	25 1/2

FRESH FRUITS.

Apples, Baldwin, up-river, per double-head barrel.....	\$1 75
Apples, Baldwin, State, per double-head barrel.....	2 00
Apples, Baldwin, poor, per barrel.....	1 25
Apples, Greening, up-river, per double-head barrel.....	1 75
Apples, Greening, State, per double-head barrel.....	2 00
Apples, Russet, per barrel.....	2 50
Apples, Russet, golden, per barrel.....	2 00
Oranges, Indian River, selected, per box.....	4 00
Oranges, Indian River, good to choice, per box.....	3 00
Oranges, Florida, bright, straight lines, per box.....	3 00
Oranges, Florida, bright, 150 and 200 per box.....	3 50
Oranges, Florida, bright, 125 per box.....	3 50
Oranges, Florida, 96 and 112 per box.....	1 75
Oranges, Florida, Russet, per box.....	2 75

Oranges, Florida, inferior, per box.....	\$1 50
Grape fruit, per box.....	1 50
Strawberries, Florida, choice, per quart.....	25 1/2
Strawberries, Florida, fair to good, per quart.....	19 1/2
Strawberries, Florida, poor, per quart.....	8 1/2
Strawberries, Charleston, choice, per quart.....	22 1/2
Strawberries, Charleston, fair to good, per quart.....	14 1/2
Strawberries, Charleston, inferior, per quart.....	10 1/2
Strawberries, North Carolina, per quart.....	10 1/2

HAY AND STRAW.

Hay, No. 1, per 100 pounds.....	95 1/2
Hay, No. 2, per 100 pounds.....	85 1/2
Hay, clover, per 100 pounds.....	70 1/2
Hay, shipping, per 100 pounds.....	70 1/2
Hay, salt, per 100 pounds.....	60 1/2
Long rye straw, per 100 pounds.....	60 1/2
Short rye straw, per 100 pounds.....	55 1/2
Oat straw, per 100 pounds.....	45 1/2
Wheat straw, per 100 pounds.....	45 1/2

LIVE POULTRY.

Geese, Western, per pair.....	\$1 35
Geese, Southern, per pair.....	1 00
Turkeys, per pound.....	13 1/2
Ducks, Eastern, per pair.....	75 1/2
Ducks, Western, per pair.....	70 1/2
Chickens, Spring, per pair.....	75 1/2
Fowls, State, New Jersey, per pound.....	14 1/2
Fowls, Western, per pound.....	14 1/2
Fowls, Southern, per pound.....	14 1/2
Roosters, young, per pound.....	13 1/2
Roosters, old, per pound.....	8 1/2

DRESSED POULTRY.

Chickens, Philadelphia, broilers, 2 1/2 pound to 3 pounds, per pair, per pound.....	38 1/2
Chickens, Philadelphia, 3 pounds to 4 pounds, per pair, per pound.....	30 1/2
Chickens, Philadelphia, 5 pounds and over, per pair, per pound.....	30 1/2
Chickens, Long Island, broilers, 3 pounds to 4 pounds, per pair, per pound.....	30 1/2
Fowls, State and Pennsylvania, per pound.....	16 1/2
Fowls, New Jersey, per pound.....	16 1/2
Fowls, Western, per pound.....	16 1/2
Fowls, Western, poor to fair, per pound.....	15 1/2
Old roosters.....	12 1/2
Turkeys, young, choice, per pound.....	17 1/2
Turkeys, young, some young, per pound.....	14 1/2
Turkeys, old toms, per pound.....	12 1/2
Turkeys, mixed weights, per pound.....	15 1/2
Turkeys, fair to good, per pound.....	11 1/2

VEGETABLES.

Potatoes, Maine, Houlton Rose, per barrel.....	\$1 75
Potatoes, Maine, Rose, per barrel.....	1 75
Potatoes, Maine, Hebron, per barrel.....	1 50
Potatoes, Florida, new, per barrel.....	5 00
Potatoes, Long Island, Rose, per barrel.....	1 50
Potatoes, State, Rose, per 100 pounds.....	1 35
Potatoes, State, Burbank, per 100 pounds.....	1 25
Potatoes, State, Hebron, per 100 pounds.....	1 25
Potatoes, State, inferior, per 100 pounds.....	1 00
Potatoes, New Jersey, Peerless, per barrel.....	75 1/2
Potatoes, New Jersey, Blush, per barrel.....	1 25
Potatoes, New Jersey, inferior, per barrel.....	60 1/2
Potatoes, Maine, Rose and Hebron, per barrel.....	1 25
Potatoes, New Brunswick, Rose, per barrel.....	1 50
Potatoes, Bermuda, new, choice, per barrel.....	6 00
Potatoes, Bermuda, new, fair, per barrel.....	4 00
Potatoes, Havana, per barrel.....	5 00
Sweet potatoes, New Jersey, per barrel.....	1 50
Sweet potatoes, Vineland, per barrel.....	2 50
Onions, Orange County, red, per barrel.....	1 50
Onions, Orange County, yellow, per barrel.....	1 50
Onions, Connecticut, red, per barrel.....	2 00
Onions, Connecticut, white, per barrel.....	2 00
Onions, Connecticut, yellow, per barrel.....	2 00
Onions, Havana, per crate.....	1 75
Onions, Bermuda, per crate.....	1 75
Cabbage, Savannah, per barrel or crate.....	1 50
Cabbage, Charleston, per barrel or crate.....	1 50
Cabbage, North Carolina, per barrel or crate.....	1 00
Tomatoes, Key West, per box.....	50 1/2
Tomatoes, Florida, per bushel or crate.....	2 00
Tomatoes, Florida, per carrier.....	3 00
Tomatoes, Bermuda, per box.....	40 1/2
String Beans, Southern, per crate.....	3 00
Green Peas, Charleston, per crate.....	1 00
Green Peas, Savannah, per crate.....	50 1/2
Spinach, Norfolk, per barrel.....	2 00
Spinach, Baltimore, per barrel.....	1 25
Kale, per barrel.....	65 1/2
Beets, Bermuda, per crate.....	1 25
Beets, Florida, per crate.....	1 75
Asparagus, Charleston, choice, per dozen bunches.....	4 00
Asparagus, North Carolina, prime, per dozen bunches.....	8 00
Asparagus, Norfolk, prime, per dozen bunches.....	4 00
Asparagus, New Jersey, per dozen bunches.....	4 00
Asparagus, fair to good, per dozen bunches.....	2 00
Lettuce, Charleston, per barrel.....	1 50
Lettuce, Florida, per barrel.....	1 50
Radishes, Norfolk, per 100 bunches.....	30 1/2

SUNDRIES.

Beeswax, Western, pure, per pound.....	27 1/2
Beeswax, Southern, pure, per pound.....	25 1/2
Beeswax, West Indies, per pound.....	25 1/2
Honey, white clover, one-pound boxes, per pound.....	11 1/2
Honey, white clover, two-pound boxes, per pound.....	10 1/2
Honey, white clover, inferior, per pound.....	7 1/2
Honey, buckwheat, per pound.....	7 1/2
Honey, extracted, California, per pound.....	7 1/2
Honey, extracted, Southern, per gallon.....	60 1/2
Maple sugar, new, per pound.....	8 1/2
Maple sugar, old, in bricks, per pound.....	5 1/2
Maple sugar, old, in tubs, per pound.....	5 1/2
Maple sirup, per gallon can.....	50 1/2

WOOL.

Boston, April 25.—The market remains in about the same position as last reported. Manufacturers have been a little more plentiful in the market, and sales have been a trifle larger. The market is not heavily supplied, and in some lines choice wools are well cleaned up. There is no desire on the part of the buyer to operate ahead, and sales continue to be made in small lots for immediate use only. The foreign markets are firmer, but the stronger tone there has not affected the market here, either for domestic or foreign wools, as far as prices are concerned. Buyers are conservative as ever, and this, with the fact that there is a large amount of wool in sight to be marketed, plainly indicates, with the low prices of wool here, that high prices for new wool cannot be expected this year. Prices continue unchanged and in the buyers' favor.

There is not much news to report in regard to the new clip. In Kentucky local buyers are paying high prices, in many cases as high as 25 cents per pound for wool on the sheeps' backs being paid. In Colorado and Wyoming storms have delayed the shearing, but there has been a little doing in the former State. Wools in Texas are arriving in the markets there, but the transactions are quite limited and no reliable figures can be named. The San Francisco market is quiet, prices ranging from 15¢ to 20¢ per pound.

The demand for fine washed fleeces is not very active, but the total amount sold is larger than reported last week. Prices are steady and unchanged. The supply of Ohio XX offering is not large, and sales are made at 27¢ to 28¢, with X. lots at 24¢ to 25¢, per pound. No. 1 Ohio wools are in small supply, the quotable market price being 23¢ to 24¢. There is no activity to report in the market for Michigan fleeces, and only small sales are made. For X wools 25¢ to 26¢ is a fair quotable price, with some dealers holding their best wools at 28¢ per pound. No. 1 Michigan wools are quiet and steady at 31¢ to 32¢. The stocks here of No. 1 washed combed wools are not excessive, but they are large enough for the full trade reported. Prices are steady, however, at 33¢ to 34¢ for No. 1 Ohio and 35¢ to 36¢ for No. 1 Michigan. There has been a good fair demand for fine Ohio and Michigan delaines, and some fair-sized lots have been sold. Choice lines had the best sale. Fine Ohio delaine sells at 32¢, with fine Michigan at 29¢ to 30¢ per pound. A sale of 5,000 pounds of heavy delaine was made at 24¢ to 25¢ per pound. One-quarter blood unwashed combed are scarce, and prices are on a very firm basis at 23¢ to 24¢. The demand is quiet. Three-eighths blood are dull and steady at 20¢ to 21¢ per pound. A sale of 2,000 pounds of unwashed delaine was made at 21¢ per pound. Ohio and Michigan unwashed and unmerchanted fleeces are having a steady demand at prices ranging from 17¢ to 18¢. The supply is not large.

The supply of Territory wool here is well reduced in size, and most of the offerings are in a heavy and faulty condition, thereby causing a quiet trade. All choice lots are well cleaned up. Most of the sales were Wyoming, Utah, and Colorado wools, at prices ranging from 18¢ to 20¢ per pound. A fair-sized lot of heavy Wyoming wool sold at 14¢ per pound. On a scoured basis sales are made at the following prices: Fine 55¢ to 56¢, fine medium, 53¢ to 54¢, medium, 50¢ to 51¢ per pound. Stocks of old Texas wools are well cleaned up, and no new wools have arrived as yet. Spring wools sell on a scoured basis at about the same price as Territories, and a good Fall lot can be bought on a basis of 45¢ to 50¢ per pound. Eastern Oregon wools are steady, but are not very active, sales being made at 14¢ to 15¢ per pound. A sale of 30,000 pounds of Valley Oregon was made at 20¢ to 21¢ per pound. California wools have been a little more active, and stocks of old wool are being steadily reduced. Spring wools sell scoured at 45¢ to 50¢, the choicest lots selling well over 50¢ per pound. Fall wools have sold well at prices ranging from 10¢ to 15¢ per pound. Several lots of fine fat sheep's wool sold at 17¢ to 18¢ per pound, with medium lots at 24¢, and occasionally a choice lot at 25¢ per pound.

Pulled wools are steady and are having a fairly active demand. The supply is ample for all requirements. On a scoured basis sales were made as follows: A supers, 60¢ to 61¢; B supers, 45¢ to 46¢; C supers, 35¢ to 36¢; extra and fine A supers, 57¢ to 58¢; Western supers, 40¢; fin-combing, pulled, 50¢ to 51¢; combed, pulled, 45¢ to 46¢ per pound.

Scoured wools of all kinds have had a good demand at prices ranging from 30¢ to 50¢ per pound, mostly at 45¢ to 50¢ per pound. Australian wools are firm and steady, with a good amount selling at prices ranging from 31¢ to 40¢, as to quality and condition. The supply of choice wools is not large. On a scoured basis sales are made at the following prices: Combed, 57¢ to 58¢; good, 47¢ to 48¢; average, 44¢ to 45¢; clothing, 64¢ to 65¢; crossbred fine, 60¢ to 61¢; medium, 65¢; Queensland combed, 60¢ to 61¢; Queensland clothing, 60¢ per pound. Carpet wools are having a fair demand at steady prices.

Quotations follow:
Ohio and Pennsylvania Fleeces: No. 1 fleece, 28¢ to 29¢; X and above, 24¢ to 25¢; XX and above, 27¢ to 28¢.

Michigan, Wisconsin, &c.: Michigan X, 25¢ to 26¢; Michigan No. 1, 31¢ to 32¢; New York, New Hampshire and Vermont X, 30¢; New York and New Hampshire No. 1, 31¢.
Combing: Kentucky 3/4 blood, 26¢; Kentucky 1/2 blood, 25¢ to 26¢; Indiana and Missouri 1/2 blood, 25¢; No. 1 Ohio, 24¢ to 25¢; No. 2 Ohio, 23¢ to 24¢; Michigan 35¢ to 36¢; No. 3 Michigan 33¢ to 34¢.
Delaine Wools: Ohio, 26¢; Michigan fine, 25¢ to 26¢.

Territory Wools: Montana fine, 15¢ to 16¢; Montana fine medium, 18¢ to 19¢; Montana No. 3 medium, 21¢ to 22¢; Wyoming, Utah, and Colorado fine, 19¢ to 20¢; Wyoming, Utah, and Colorado fine medium, 16¢ to 17¢; Wyoming, Utah, and Colorado No. 2 medium, 15¢ to 16¢.
Southern Clothing Wools: Georgia, 25¢; Kentucky 1/4 blood clothing, 24¢ to 25¢; Kentucky 1/2 blood clothing, 23¢ to 24¢.

Texas and Southern Wools: Texas Spring medium (13 months), 15¢ to 16¢; Texas Spring fine (six to eight months), 17¢ to 18¢; Texas Spring medium (six to eight months), 19¢ to 20¢; Texas Fall, 17¢ to 18¢.
Kansas and Nebraska Wools: Fine, 14¢ to 15¢; medium, 13¢ to 14¢; carpet, 13¢ to 14¢.

Unwashed and Unmerchanted Wools: Michigan and Ohio fine unwashed, 17¢ to 18¢; Ohio and Pennsylvania unmerchanted, 15¢ to 16¢; Michigan unmerchanted, 16¢ to 17¢.

California Wools: Spring Northern, 21¢ to 22¢; middle County, Spring, 17¢ to 18¢; Southern defective, 14¢ to 15¢; free Northern Fall, 17¢ to 18¢; Southern do, 13¢ to 14¢; defective, 9¢ to 10¢.

Oregon Wools: Eastern, fair, 16¢ to 18¢; choice, 19¢ to 20¢; valley, 21¢ to 22¢.
Montevideo wools nominal; 27¢ to 28¢, fair to choice.

Cape wools, 26¢ to 27¢, as to quality.
Carpet wools: Aleppo, 14¢; Angora, 14¢ to 15¢; Assyrion, 13¢ to 14¢; Cordova, 12¢ to 13¢; Donkoi Autumn, 12¢; combed, 20¢ to 21¢; carding, nominal, 22¢ to 23¢; yellow, nominal, 21¢ to 22¢; gray, nominal, 16¢ to 17¢; black, nominal, 15¢ to 16¢; greasy, 14¢ to 15¢; East India, Vicamer, nominal, 16¢ to 17¢; Candahar, nominal, 22¢ to 23¢; Joria, nominal, 21¢ to 22¢; Bagdad, white, nominal, 25¢; do, colored, nominal, 21¢ to 22¢.

Why the Dog Wasn't Fed.

Gentleman (to urchin)—Why is this dog so thin?

Urchin—He doesn't eat anything.

Gentleman—Why doesn't he eat?

Urchin—We don't give him anything.

Gentleman—And why don't you?

Urchin—We ain't got anything!

A FANCY CUFF BUTTON.



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Fame Found in the Jaws of Death.

Family Physician—Well, I must congratulate you.

Patient (quite excited)—I will recover?

Family Physician—Not exactly; but—well, after a consultation, we find that your disease is entirely novel, and, if the autopsy should demonstrate that fact, we have decided to name it after you.—*Exchange.*

Squatter Sovereignty.



The balmy influence of Spring is felt
On all the city's streets,
And in the parks the festive tramp
Doth fully fill the seats.

The Horse Liked Wood.

Stranger (anxiously)—I left my horse tied here to your post, and now he's gone. What become of him?

Mr. Wayback (reflectively)—I dunno, for sure; but from the way that horse o' yours was chawin' at my post, I shouldn't wonder if he'd eaten it up an' gone off ter hunt another.—*Street & Smith's Good News.*

An Interrupted Yarn.

"Papa," inquired the little boy, "how big a hailstone did you ever see?"

"I've seen hailstones," replied Deacon Ironside, with animation, "as big as—as big—no! This is Sunday! Read another page of yer catechism, Samuel!" —*Chicago Tribune.*

A Vigorous Speaker.

"I don't need to praise my butter," said the dealer. "It speaks for itself."

"Yes," assented the customer. "It uses strong language, too." —*Detroit Free Press.*

A Foreigner.

Mr. Vonderkase—Vy you call me a foreigner, eh? I am no more foreigner dan yourself.

Mr. McCork—Hear th' shpalpeen! Anyone might think he'd been born in Oirland.—*New York Weekly.*

Over Exertion.

Small Boy (who has been playing ball for six hours)—My legs ache.

Anxious Mamma—What have you been doing?

Small Boy—I dunno. I did an example on the blackboard yesterday. —*Street & Smith's Good News.*

Took the Prescription.

Poor Patient (after an examination)—Doctor, is there much the matter with me?

Doctor—Nothing but the effects of care and worry. You must reduce your expenses so as to live within your income.

Patient—I'll begin now. Here's 10 cents. Good day.—*New York Weekly.*

Chance for Athletes.

Farmer—Yes, I want a man. Are you a good jumper?

Applicant—Jumper? Well, yes. "You could jump a barbed wire fence without much trouble, I s'pose?"

"Um—I s'pose so."
"Well, that's all right then; you'll do. You see, some of our bulls is a leetle wild." —*New York Weekly.*

In a Philosophical Light.



"Uncle, how far is it to Hiram's Corners?"

Well, boss, ef yous gwine 'r hoof 'er thar, eta jist eight mile an' a ha'f; but, ef you can ketch a lift down thar, 'tain't more'n fo', sah."

During the Thunderstorm.



She—Oh, how awful the thunder and lightning are! Every peal and clap makes my heart stop beating.

He—Don't be alarmed, my angel. So long as I am near nothing shall happen to you.

Only a Little Later.

He—You know, they have a fine idea in China; they kill all the girl-babies and give them to the hogs.

She—Ah! And here the girls are not given to the hogs till they have grown up.—*Life.*

Time to Leave the Telephone.

The New York Tribune declares it was one of the biggest business of the city. The telephone bell in the private offices of the head of the firm began to ring, and a young clerk who was passing through the rooms and noticed that there was no one there to answer the call went to the telephone.

"Hello!" he said, "what do you want?"

"Is this Brown, Smith, Jones & Williams?" was the answer.

"Yes, what do you want?"

"Is this Brown, Smith, Jones & Williams?"

"Yes, I say; what do you want?"

"Is this Brown, Smith, Jones?"

"Yes, I say."

"Is this Brown, Smith?"

"Yes, you deaf chunk of stone."

"Is this Brown?"

"See here," yelled the clerk in a rage;

"you old, bald-headed, putty-faced, cotton-eared mummy, go off and learn how to put your ear against a telephone receiver before you wear your lungs out again shouting for Brown, Smith, Jones & Williams."

"Oh-h!" came back in a shrill cry of fury; "I'm Mr. Brown, the head of that firm, and"—

But the young clerk quickly put the receiver down and let it hang so that there could be no more ringing, and quietly stole away.

A Smart Man.

Wool—The other day a green-goods man sent Joblots a circular; he wrote right back for a sample and got a good dollar bill.

Van Felt—Then what happened?
Wool—Joblots set 'em up.—*New York Herald.*

The Song He Sang.



He sang a song of six-pence,
Just to get a little rye;
"If you'll kindly loan me four more,
I needn't be so dry."

Precisely.

Featherstone—You get all your clothes made in London, don't you? How do you continue to have them fit? Ringway—They don't fit. That's what makes them look so English.

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THE MOST VALUABLE BOOK ISSUED ANNUALLY IS THE REPORT OF THE SECRETARY OF AGRICULTURE.

The last one printed, which is just out, is for the crop year of 1890

It is an octavo volume, bound in cloth, of 612 pages, with four folded maps and 46 full-page colored plates.

The articles embraced in the volume comprise the latest information relative to the Propagation of the Silk Worm; Diseases of Cattle and Swine; Article on Irrigation; Mushroom Culture; Statistics of Cereals and Cotton; Reports of Field Experiments in Treatment of the Disease of Plants; Cultivation of the Apple, Peach and Small Fruits; Article on Nut Culture.

There are many other valuable articles upon kindred subjects of vital interest to the agriculturist, copiously illustrated.

The folded maps and charts show the production of wheat, corn and cotton for 10 years, and the results of artesian irrigation. The best idea of the scope of this magnificent work may be gathered from the following list of the illustrations:

Report of the Chief of the Bureau of Animal Industry:

Diagram A. Average price of hogs and home consumption of hog products per capita.

B. Average price of hogs, compared with the total production of hog products per capita, and the price of corn.

C. Production of corn per capita, and the average price per bushel on farms, December 1.

Report of the Entomologist:

Plate I. New species of *Icerya*.

II. The Leefteld fumigator.

III. *Ceratitis capitata* and *Nephelodes violans*.

IV. Parasites of *Nephelodes* and *Hematobia*.

V. Rose chafer and green-striped maple worm.

VI. State Capitol at Lincoln, Neb., showing trees defoliated by the green-striped maple worm.

VII. Black scale and *Lucilia cæsar*.

Report of the Chief of the Silk Section:

Plate I. Various races of cocoons.

II. Various races of cocoons.

III. Various races of cocoons.

IV. Pruning of mulberry trees, half-standard tree.

V. Half-standard mulberry tree.

VI. Pruning of mulberry trees, dwarf.

Report of the Statistician:

Map I. Corn (maize). Values and yields per acre.

II. Wheat. Values and yields per acre.

III. Cotton. Values and yields per acre.

Report of the Microscopist:

Plate I. Eight edible mushrooms common to the United States. Second series.

II. Twelve poisonous mushrooms.

III. Mushroom beds in cellar.

IV. Mushroom beds in market gardens.

V. Mushroom house.

VI. Microscopic researches in food fats.

VII. Nitrate of silver test of food and medicinal oils.

VIII. Nitrate of silver test of food and medicinal oils.

IX. Nitrate of silver test of food and medicinal oils.

X. Nitrate of silver test of food and medicinal oils.

XI. Species of mushrooms.

Report of the Botanist:

Plate I. *Ambrosia trifida*.

II. *Hieracium aurantiacum*.

III. *Linaria vulgaris*.

IV. *Cuscuta trifoli*.

V. *Plantago lanceolata*.

VI. *Cenchrus tribuloides*.

VII. *Pennisetum typhoides*.

VIII. *Eragrostis abyssinica*.

Report of the Chief of the Division of Vegetable Pathology:

Plate I. Hollyhock anthracnose.

II. Anthracnose of cotton.

III. Ripe rot of grapes and apples.

IV. Treatment of pear leaf blight (Bordeaux mixture).

V. Treatment of pear leaf blight (ammoniacal solution, copper carbonate).

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Plate I. Wild and cultivated pecans.

II. Pecan tree, in orchard at Ocean Springs, Miss.

III. Switzer apple.

IV. Banquet Strawberry.

V. Brilliant grape.

VI. Pineapple field at Lake Worth, Fla.

VII. Zengi.

VIII. Tsuru.

IX. *Elaeagnus pungens*.

Report of Agent in Charge of Artesian Investigations:

Map I. Map showing results of artesian investigations.

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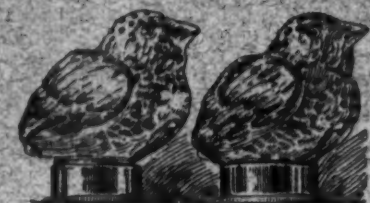
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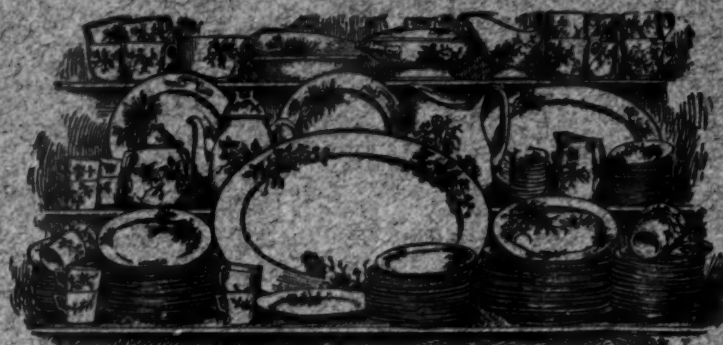
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